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1. 2017

1.1 May

Updating my Windows 7 system to protect against WannaCry/WannaCrypt ransomware (2017-05-15 22:59)

As news broke of WannaCry/WannaCrypt ransomware attacks across the world including some rare reported attacks in India, I spent good part of my day today to understand the threat and take steps to protect myself from it. My Facebook post, https://www.facebook.com/ravi.s.iyer.7/posts/1907471216136113, and comments is a log of my actions and thoughts on it today. This post is a refined version mainly extracted from that log.

1) Here's a good article on defending one's Windows system from WannaCry/WannaCrypt ransonware attack: http://www.zdnet.com/article/how-to-defend-yourself-against-wannacry-global-ransomware-attack/.

2) Here's the main Microsoft link which gives overview instructions for all Windows systems, and details links specific to various Windows versions, to protect against vulnerability exploited by WannaCry/WannaCrypt: Microsoft Security Bulletin MS17-010, https://technet.microsoft.com/en-us/library/security/ms17-010.aspx, version 1.0, published on March 14, 2017.

3) My main desktop system uses Windows 7 SP 1. The link for individual security update for Windows 7 to prevent Wannacry attack is: http://www.catalog.update.microsoft.com/search.aspx?q=3212646.

I have x64 Windows 7 and so chose "January, 2017 Security Monthly Quality Rollup for Windows 7 for x64-based Systems (KB3212646)" Download link. The download file is listed as 142.7 MB size.

4) After downloading the individual update mentioned above that fixes vulnerability exploited by WannaCry, I faced a peculiar problem on trying to install it. The installation procedure got stuck on searching for updates (on this computer) - I don't recall the exact words now. I let it run for an hour or so but it still was stuck!!!

Google searching for why I was facing this problem led me to the two following links:
a) https://superuser.com/questions/1044528/attempting-to-install-msu-hotfixes-re sults-in-searching-for-updates-on-this-com
b) https://answers.microsoft.com/en-us/windows/forum/windows _vista-update/updates-not-working-it-has-been-searching-for/92cd6922-17f6-4730 -b46b-91a480b95dd3

As I went through them these lines from the first link, "WUSA.exe, which is used to install MSU updates, is just a wrapper to Windows Update. After Windows Update installed an update it hangs again in a loop to check if updates apply or not and those checks are useless after an install and this loop blocks you from installing other MSU updates.

To speedup the Installation, stop the WindowsUpdate service via GUI (services.msc) or via elevated (running as admin) command line (net stop wuauserv). Now the loop is stopped and updates install faster." struck me as a possible indication of my problem.

What they essentially say is that Windows Update service needs to be stopped. So I changed the Windows Update settings to Never (not recommended), and restarted my system. Interestingly link 2 above has something similar suggested though I focused on it only after I tried out the above, "Disable automatic Windows Updates [Windows Update | Change settings | Important updates | Never check for updates (not recommended)] and re-boot to terminate any Windows Update sessions currently running in the background on your system."

When the system restarted I checked that Windows Update settings was set at Never, and that Check for Updates was NOT running. Then I ran the individual installation file again. This time it DID NOT GET STUCK at searching for updates (on this computer)!!! It took a little while to go through the process of individual installation giving appropriate status messages letting me know of what it is doing. In perhaps around 10 minutes or so the installation was done and I was prompted for a restart of the computer which I did.

The shutdown and restart resulted in Windows configuration messages coming up. When the system was up after these procedures, I used the View Update history to see whether it reported the new individual update as installed. The first line had, "Security Update for Windows (KB3212646), Status: Successful, Importance: Important, Date Installed: 15-May-2017"

That’s it!!! My Windows 7 x64 system was now protected against the vulnerability that WannaCry ransomware is reported to have used.

I then changed the Windows Update settings to Automatically Update, and also initiated a Check for Updates, which will bring in all the other updates from Microsoft site since I did my last full update in Sep. 2016. Note that I was not using automatic update regularly as it slowed down my Net connection.

One problem I am facing now is that Check for Updates is very slow! It seems to need days to finish! I think I will need to use Hibernate on my system instead of Shutdown till Check for Updates completes successfully and then updates my system. Perhaps the nearly 8 month gap since my last full Windows update is the reason for this unusual amount of time, Check for Updates is taking.

5) Copy-paste of email I got dated May 15, 2017 at 12:24 AM, from Indian govt. portal MyGov on handling Wannacry ransomware threat is given below:

Dear friends,

It has been reported that a new ransomware named as "Wannacry" is spreading widely. Wannacry encrypts the files on infected Windows systems. This ransomware spreads by exploiting vulnerable Windows Systems. The Indian Computer Emergency Response Team has issued advisory regarding prevention of this threat.

In view of high damage potential of the ransomware a webcast has been arranged to create awareness among users/organisations.

The webcast on the topic "Prevention of WannaCry Ransomware Threat - session by CERT-In" will be broadcast on http://webcast.gov.in/cert-in/ on 15th May 2017 at 11 AM

Please do tune in to the broadcast to learn more and protect yourself.

Team MyGov
—- end copy-paste of email —-

This MyGov webcast link, http://webcast.gov.in/cert-in/, given above, has a video of around 16 minutes. But the video tends to get stuck. I eventually managed to see the whole 16 min video. It is worth watching as it provides a lot of information about cyber help services Indian govt. provides to users (presumably all residents of India) to protect and respond to such cyber attacks in India.

Here's the website for Indian govt. agency that did the MyGov video: http://cert-in.org.in/. On its home page, under Current Activities section, click on the link, "Wannacry / WannaCrypt Ransomware - CRITICAL ALERT" to see associated webpage.

6) Here's an interesting related blog post, Patching is Hard, https://www.cs.columbia.edu/ smb/blog//2-017-05/2017-05-12.html by Computer Science Prof. at Columbia University, Steven Bellovin, https://en.wikipedia.org/wiki/Steven _M. _Bellovin. Bellovin raises the very valid concern in some contexts, about the dangers of applying OS patches. I tend to agree with his views in the context of keeping sophisticated application software systems running on various Operating Systems. Applying a patch of an OS could break important application software systems which may get impacted in unusual and unanticipated ways.

But I should also mention that as a Windows home PC user over the past five years with almost zero, if not zero, software development activity and minimal custom application software usage, I have not had any serious issues of Windows OS patches breaking the minimal software apps. that I use on my Windows home PC. And over the past few years I have become primarily an Internet apps user using either Chrome or Internet Explorer, with Microsoft Office being the only other major application that I use. I think due to this profile of my Windows home PC use, I have not had any serious issues with applying Windows OS patches.

Great solution perhaps to speed up Windows 7 Check for Updates (2017-05-16 15:54)

Here's a small extract from my previous post, Updating my Windows 7 system to protect against WannaCry/WannaCrypt ransomware, https://ravisiyer.wordpress.com/2017/05/15/updating-my-windows-7-system-to-pr otect-against-wannacrywannacrypt-ransomware/, dated May 15th 2017 that gives the context for this post.

"One problem I am facing now is that Check for Updates is very slow! It seems to need days to finish! I think I will need to use Hibernate on my system instead of Shutdown till Check for Updates completes successfully and then updates my system. Perhaps the nearly 8 month gap since my last full Windows update is the reason for this unusual amount of time, Check for Updates is taking."

To try to speed up Windows Check for Updates, I referred to this article, How to speed up Windows 7 Update scans—forever, by Woody Leonhard, Senior Contributing Editor, Infoworld, http://www.infoworld.com/article/3136677 /microsoft-windows/how-to-speed-up-windows-7-update-scans-forever.html, dated Nov. 4th 2016.

I tried out the steps outlined in the article (on 16-May-2017) and got great results! Essentially I had to follow step 3 (Install KB 3020369) and then step 2 (Try to install KB 3172605) of the article. I could omit step 1 as I don’t use Intel bluetooth drivers. Then when I tried Check for updates again it got over in around 10 minutes!! What an extraordinary improvement over my previous hours long multiple attempts at Check for updates that did not complete!!

I am very thankful to Woody Leonhard, Senior Contributing Editor, Infoworld [Facebook: @WoodyOn-Windows , https://www.facebook.com/WoodyOnWindows] for these great tips in his article which resolved my Check for updates problem. I have also Facebook-Liked his Facebook page and so am now following him on Facebook.

The Check for updates listed 253 important updates as selected (for download) with a size of around 1,394 MB. I was able to download that over my BSNL Unlimited Broadband landline connection, over around 2 hours or so with a half an hour to one hour electric power supply cut in between during which I had to hibernate my computer system and restore (restart) it from hibernation after the power supply got restored. At around 6:23 PM (on 16-May-2017) the Windows update process had finished the updates download and was creating a restore point.

The installation of updates went from around 6:24 PM to 11:42 PM (slightly over 5 hours) with 240 updates succeeding and 13 updates failing. Restart of system was needed during which the system took some time both during shutdown and at restart, to configure the Windows updates. Around 11:54 PM the system had completed the configuration and restarted Windows 7 with the new configuration. At last, my system had got updated with the latest updates from Microsoft (excluding a few update failures which I plan to look into), with the Windows Control Panel Windows Update status showing that Updates were installed “Today at 11:41 PM” (Today being 16-May-2017).

For the future, I plan to keep Windows Update setting on "Check for updates but let me choose whether to download and install them". I plan to do the updates manually like I did today perhaps once every month, and whenever there is a report of a major vulnerability in Windows and a patch from Microsoft is available to fix that vulnerability. I think such a manual update process allows me to know more of what is happening during the update and also have some small level of control over the update process. It also means that I need to keep aside time every month or so for doing a manual update and observing the process. I think I am willing to invest in that time. Note that I am able to multi-task the manual update work with other tasks including some Internet browsing (the speed is slow perhaps due to demand on both processor(s) and Internet connection). However, I try to keep such additional load on the PC to a minimum while the Windows Update process is going on.

I came across an article by the same author, Woody Leonhard, 10 reasons you shouldn’t upgrade to Windows 10, http://www.infoworld.com/article/2972298 /microsoft-windows/10-reasons-you-shouldnt-upgrade-to-windows-10.html, dated Aug. 1, 2016. Essentially it states that for people who don’t need the new features of Windows 10, the annoyances of Windows 10, makes staying on Windows 7 or Windows 8.1 a better option. So I have decided to stay on Windows 7 (and Windows 8.1 on my alt computer, a Dell Mini Laptop) but ensure that it is updated with patches from Microsoft, around once a month.

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Given below is a detailed log of what I tried out on 16-May-2017 from the afternoon spilling on to early hours of 17-May-2017. Readers who do not want to know the details may skip reading the rest of this post.

- Step 1 deals with Intel Bluetooth driver. As I don't use Bluetooth on my Windows 7 PC I could skip step 1. Note that the article states that the key KB 3172605 patch installation (step 2) suffers from an Intel Bluetooth related drawback: "It crashes a very common set of Intel Bluetooth drivers."
- Followed step 3 (Install KB 3020369) and then step 2 (Try to install KB 3172605) of the article. First attempt at step 2 right away failed. Then did step 3 which succeeded followed by step 2, which succeeded this time around.
- Now I have initiated Check for Updates again. Let me see if it does it faster now. ....
- It got over in perhaps less than 10 minutes, showing a message 253 important updates selected, 1,394.3 MB - 1,394.5 MB. What an extraordinary improvement!!! The most recent check for updates timestamp has now been changed to "Today at 3:38 PM", whereas my previous hours long attempts of Check for Updates, over the past few days, did not result in any change of that timestamp (which earlier was mid Sept 2016). But it did line up a few updates (around 10, most of which were Microsoft Office updates, if I recall correctly) which got installed at shutdown time.
- Have initiated download of updates. Current message is "Downloading 253 updates (1,394.5 MB total, 6 % complete).
- I don't know whether there are any problems other than the Intel Bluetooth drivers problem mentioned earlier, associated with this method to speed up Windows 7 Check for Updates. I presume it is safe as it involves installing two KB patches of Microsoft itself. If I face any unusual Windows update or other Windows OS problems in the near future, I plan to report them on this page.
- Lost electric power for perhaps half an hour to an hour. As my PC UPS can be relied on to deliver power during electric power supply cut, for ten minutes or so, I hibernated my PC with the Downloading updates progress message box showing around 50 % complete. On restoring PC from hibernation after power supply got restored, the Windows Update picked up from where it had left off. At 5:29 PM it shows 65 % complete status.
- 6:21 PM - Windows Update shows the message: Preparing to install [Ravi: That implies 100 % of download of updates is complete!]
- At or before 6:23 PM a message was shown that it was creating a restore point.
- 6:24 PM - Installing update 1 of 243
- 7:34 PM - Installing update 101 of 243
- 10:45 PM - Installing update 206 of 243
- Around 11:42 the installing update process gave message box prompt to Restart with a tally of 240 updates succeeded and 13 updates failed.
- 11:54 PM: The system configured the updates taking some time prior to shutdown and lesser time after startup. Now Windows Update shows that Updates were installed "Today at 11:41 PM".
- As some updates (13) had been listed as failed, I decided to Check for updates again around 11:58 PM.

- Around/slightly before 12:15 AM (17-May-2017) the Check for updates finished listing 16 important updates selected, 97.9 MB [It also stated 18 important updates are available and 47 optional updates are available.]
- 12:16 AM: I chose install updates (or something like that). The Downloading updates progress window came up showing message "Downloading 16 updates (0 KB total, 0 % complete). Also the Most recent check for updates now shows "Today at 12:13 AM".
- 12:18 AM: Now the message shows "Downloading 16 updates (97.9 MB total, 69 % complete)
- 12:19 AM: It shows Preparing to install (so 100 % of updates were downloaded). Creating a restore point.
- 12:20 AM: Installing update 5 of 16
- 12:25 AM: Installing update 14 of 16
- 12:28 AM: Prompt for Restart with status: Succeeded: 14 updates, Failed: 2 updates. Error(s) found: Code 643 Windows Update encountered an unknown error ...
- 12:29 AM: Clicked on Restart.
- 12:31 AM: The configuration update during shutdown and restart was fast. Windows Update status shows that Updates were installed: Today at 12:28 AM.
- I don't want to try Check for updates again to try to fix the 2 failed updates now. I plan to do it today (17-May-2017) afternoon.
- Went through the update history. Interestingly it showed the two failed updates for the latest update (17-May-17) They deal with: a) Update for Microsoft XML Core Services 4.0 Service Pack 2 for x64-based Systems (KB973688) b) Security Update for Microsoft XML Core Services 4.0 Service Pack 2 for x64-based Systems (KB954430)
- There are similar details for failures in earlier update done on 16-May-17.
- I think I should Google for what one should do for such failures in Windows Update.
- 12:41 AM: Changed Windows Update setting to "Check for updates but let me choose whether to download and install them". That takes away the red flag from Taskbar status.

1.2 June

Upgraded Dell Mini-Laptop from Windows 8 to 8.1; 3.62 GB + 750 MB download

(2017-06-06 18:48)

Summary

The Windows 8 to 8.1 upgrade (3.62 GB download) of my Dell Mini Laptop including Windows update to bring the computer up to latest (important) updates from Microsoft on Windows 8.1 (750 MB download), using Microsoft online upgrade & update facility, took from around 11 AM on 5th June 2017 to 4:40 PM the same day, i.e. around 5 hours 40 minutes, using a claimed 8 Mbps (perhaps giving around 6.5 Mbps download speed) BSNL landline broadband connection.

Detail

My regular desktop PC ran into some hardware issues over the past few days. That prompted me to switch to my fallback/alternative comp - my Dell mini Laptop. Now, I had not used it for months and I knew that the first thing to do was to invoke the free upgrade from Window 8 (no longer supported by Microsoft) to 8.1 which was enabled on this mini Laptop, followed by Windows Update. This would resolve any exposure to Wannacry and similar Ransomware threat exploiting the known flaws of Windows OS.

I had wanted to do the upgrade sometime in the beginning of this month anyway to ensure protection from Wannacry and similar threats. I have a (supposed/claimed) 8 Mbps upto 25 GB per month BSNL landline broadband connection with my broadband usage sometimes crossing 30 GB a month. I had already crossed my 25 GB limit quite early last month and so had then felt early June 2017 was a good time for the Dell Mini-Laptop Windows 8.1 upgrade. The regular desktop computer hardware issues forced me to do it anyway.

Given below is a short account of the upgrade as a log/record mainly intended for myself but published as a public post just in case it may be helpful to some others as well.

1) Started the Windows 8 to Windows 8.1 upgrade around 11 AM on 5th June 2017. Checked that shutting the Dell MiniLaptop Computer (MLC) and then restarting picked up the download from where it had left off. But I had to go through the process of going to Windows Store and choosing 8.1 upgrade again, which had initially led me to believe that the entire download would start from scratch.

2) According to my detailed handwritten log, while Windows 8.1 upgrade process did not seem to clearly specify when the download process got over and when the install of the downloaded setup files started, going by some messages about activity being done, it seems that the Windows 8.1 download got over around 12:13 PM (same day). That is it took around 1 hr 15 minutes.

3) Now let me get in some download time calculation stuff.

- http://www.download-time.com/ provides a quick calculator to "calculate download time for a file depending on download speed."
- At (supposed) 8 Mbps, 3.62 GB Windows 8.1 Download should take 1 hr, 4 min, 46 secs (presumes fast Download server not acting as a bottleneck)
- I guess what I typically get is between 6 to 7 Mbps download speed based on tests I have conducted in the past and also today on http://bsnlspeedtest.in/. The test today (6th June 2017 at 4:14 PM Indian Standard Time/10:44 AM UTC), http://openspeedtest.com/results/1197919 5, gave a download speed of 6.9 Mbps. At 6.5 Mbps, 3.62 GB Windows 8.1 Download should take 1 hr, 19 min, 43 secs (presumes fast Download server not acting as a bottleneck)

- The above is very close to the 1 hr 15 minutes time my log puts down for the actual download of Windows 8.1 upgrade. Hmm. Somehow I did not realize that I could get a Windows upgrade of 3.62 GB size from Microsoft site downloaded so fast in Puttaparthi, a rather rural place in India, all said and done. But that's what I got! Great!

- At 1 Mbps, 3.62 GB Windows 8.1 Download should take 8 hr, 38 min, 15 secs (presumes fast Download server not acting as a bottleneck)

- Using the above calculator at 8 Mbps speed: 1 GB download - 17 min. 53 secs (presumes fast Download server not acting as a bottleneck).

- Using the above calculator at 6.5 Mbps speed: 1 GB download - 22 min. 01 secs (presumes fast Download server not acting as a bottleneck).

4) Though the Windows 8.1 upgrade download seems to have got done around 12.15 PM, the setup of Windows 8.1 on the MLC took significantly more time. The entire setup process (done mostly without any need for intervention, except for one or two cases of responding to prompts to restart the system and then login as administrator) took upto 3.02 PM at which time I had logged in as administrator and checked that the system details showed Windows 8.1 (as the OS instead of Windows 8). One particular point at which the setup process seemed to take very long was after the first computer restart in the install process when it showed a message of Setup (in progress, I guess) with an 82 % completed figure. I think it was stuck at this 82 % for over an hour - between 1:13 PM at which setup was at 75 % and 2:31 PM at which setup had moved to 84 %!!! Note that the 1st computer restart in the upgrade installation process was done around 1:00 PM. I am not sure if I had to restart the computer only once as part of the Windows 8.1 upgrade - but I think I had to do it only once.

5) After upgrade had completed, I did Check for Windows Update. As the internet cable connection wire had got twisted near the point at which it connected to the MLC (the housemaid had come in and was cleaning the flat which created some disruption and some stuff had to be moved around), the connection broke one or two times. That created some issues for Windows Update. Then I ensured that the cable is connected properly and undisturbed through the Windows update process. Within 5 to 10 minutes after fixing this issue, Check for Updates completed successfully listing 38 important updates (and 8 optional updates which I ignored). This got done at around 3:20 PM.

6) Chose Install (important) updates around 3:22 PM. It showed a message that it was downloading 36 (not 38!) updates with a total size of 655.4 MB. The download seems to have got over (going by message that it was installing) around 3:38 PM. So 655 MB got downloaded in around 16 minutes. http://www.download-time.com/ calculation: at 6.5 Mbps, 655 MB download should take 14 min. 5 secs. So my Broadband download speed would have been around 6.5 Mbps or slightly lesser for this 655.4 MB updates download from Microsoft updates server.

5) It took up to 4:12 PM for the updates install process to prompt for restart. After restart (at which time, before the login prompt comes up, some more installation/configuration work is done), the system was ready for use at 4:20 PM. The Last Check for (Windows) Updates and Windows Update history reflected the timestamps as per above mentioned events.

6) As 36 out of 38 important updates had been downloaded and mysteriously two had been omitted, I decided to repeat the Check for Updates. Did Check for Updates at 4:26 PM which got finished in one minute stating that 5 important updates and 8 optional updates are available.

7) Chose to Install 5 important updates (99.8 MB) at 4:28 PM. [That takes the total Windows updates download to 655.4 MB + 99.8 MB i.e. around 750 MB.] The download part of it seems to have got over at 4:32 PM. The installation of updates prompted for computer restart at 4:36 PM. After restart, logged in as administrator at 4:40 PM (and was shown the desktop). The entire upgrade followed by Windows Update had been completed, at last!

Mobile 4G speeds, plans and dongle/hotspot devices in India; 3G speeds; BSNL landline Broadband plan & speed **(2017-06-06 22:28)**

Last updated on 7th June 2017

This post is a note capturing some information that I have dug up and analyzed over the past two days (5th and 6th June 2017). It is not a comprehensive analysis and is more of a casual capturing of information mainly for my future reference. But I thought some others may be interested to read at least some of the info. in this note and so I have put it up as a public post.

Note that BSNL is owned by Indian government (public sector company) and seems to take on the burden of govt. policies of servicing rural and semi-urban India, including Puttaparthi where I live. As BSNL is govt. owned, for people like me who live in rural India, there is a significantly higher level of confidence in the longevity of its services as compared to private sector companies (Reliance Jio, Airtel, Idea, Vodafone and Reliance Communications are private sector companies in India) who may close down their services to any rural part of India anytime, if the business is not good there.

A) Looked up some data for Mobile 4G broadband speeds and plans in India, especially that of Reliance Jio which seems to have shaken up the market. Note that Reliance Jio is available in Puttaparthi and seems to have many happy customers who were particularly pleased with their initial free/very limited monthly charges offer. But I don't know whether even 4G Internet was provided as part of that free/very limited monthly charge initial offer.

B) http://gadgets.ndtv.com/telecom/news/reliance-jio-4g-download-speed-fastest-in-india-once-again-idea-second-trai-data-1676837, dated 3rd April 2017 lists the following as the fastest 4G mobile download speeds based on data from TRAI's MySpeed app [I guess TRAI stands for Telecom Regulatory Authority of India, http://trai.gov.in/]:

1. Reliance Jio - 16.487 Mbps
2. Idea - 12.092 Mbps
3. Airtel - 10.438 Mbps
4. Vodafone - 7.933 Mbps
5. Reliance Comm. - 2.958 Mbps

C) http://www.myspeed.trai.gov.in/ allows us to check the estimated speeds of mobile Internet provides based on some samples ***now***. I can also specify location as Puttaparthi!!! DL below stands for Download and UL for Upload (speeds).

For Puttaparthi now on 6/6/2017
===============================
4G Jio is listed as 3.42 Mbps DL and 2.96 Mbps UL
And it lists speeds ***only*** for Reliance Jio under 4G. Airtel and BSNL show no data for 4G!!

Hmm. I don't know how good the application's data is for Puttaparthi. I think it would be best to make specific speed tests using an Internet connection of the provider to be sure of the speed in Puttaparthi, in general, and, in particular, in the location where one is exploring the possibility of using it (e.g. home/workplace). Note that signal strength at the location where one is accessing mobile Internet is a critical factor in the speed of mobile Internet at that location. Poor signal strength in a particular location (home/workplace), I am told and which seems to be very logical, leads to poor mobile Internet speeds even though nearby locations in the same area (town/city) get good signal strength and so good mobile Internet speeds.

The limited data shows that Mobile 4G Broadband in Puttaparthi seems to be at significantly lesser levels of availability from mobile service providers, as of now, and when available, its speed may be significantly lesser than in other parts of India, especially its big cities.

D) http://www.myspeed.trai.gov.in/ data for India (as a whole) on 6/6/2017

4G DL speeds

1. Jio - 18.4 Mbps
2. Idea - 11.8 Mbps
3. Vodafone - 11.5 Mbps
4. Airtel - 9.9 Mbps

3G DL speeds

1. Vodafone - 4.8 Mbps
2. Airtel - 3.5 Mbps
3. Idea - 3.0 Mbps
4. Tata DoCoMo - 2.6 Mbps
5. Aircel - 2.1 Mbps
6. BSNL - 2.1 Mbps
7. Reliance - 2.1 Mbps

8. MTNL - 1.2 Mbps

E) http://www.jio.com/en-in/4g-plans gives its monthly plans (cost)

Its plans have a validity period (in days), a speed upto a data limit which may be per day and/or across the whole validity period, and a very poor speed (128 Kbps) after the data limit per day and/or across the validity period is over. So essentially after the data limit is crossed, the connection speed drops to very poor but still alive, at which time, for the case where data limit for the entire validity period is crossed, one perhaps is expected to recharge with a new plan . For the case of the data limit being crossed for that day alone and not for the entire validity period, one simply has to wait for the next day (tomorrow) or use an alternate means to get high speed Internet.

I have given below three of its plans.

- Rs. 309 - 84 days validity, 84 GB limit over 84 days including 1 GB limit per day.
- Rs. 509 - 84 days validity, 168 GB limit over 84 days including 2 GB limit per day.
- Rs. 999 - 120 days validity, 120 GB limit; NO LIMIT per day.

For my particular situation, if Reliance Jio gives 8 Mbps or above DL speed in Puttaparthi and at my apartment flat, then its Rs. 999/- plan (I presume service tax is included in it) which is essentially for 120 GB data, competes very well with my current BSNL Landline broadband plan of Rs. 999 + 15 % tax = Rs. 1149 per month giving 8 Mbps DL speed and 25 GB data limit (with that claimed/advertised speed)! At an average 30 GB data per month consumption, I will be able to pay for over four months for my Broadband usage with Reliance Jio that I am currently paying BSNL for one month!!! But .... The big question is whether Reliance Jio delivers that speed in Puttaparthi, and in my flat (as signal strength may be an issue), and how consistent it is with that speed (or thereabouts) over the entire month.

F) Besides 4G being available on smartphone, one can use a dongle/WiFi hotspot device with a SIM to act as a kind of mobile broadband Internet device providing USB and/or WiFi broadband connectivity to computers including desktop computers (like the one I use for regular work). Here are details for "JioFi HotSpot Device", https://www.jio.com/shop/en-in/jiofi-4g-hotspot/p/491193575, which claims "True 4G speed" and is recommended to connect upto 10 devices (WiFi) + 1 (USB tethering). It is priced at Rs. 1,999/=.

I guess similar devices would be available for other Mobile 4G providers in India like Airtel, Idea, Vodafone and Reliance Communications (RCom).

Here is an interesting link, Best Data Cards / USB Internet Dongles in India, http://www.mi-fi.in/best-data-cards-india/. It states, "Now(a)days data card and USB dongle are used synonymous(ly) which refers to USB modem [Ravi: I think it should be device NOT modem] which lets you access the internet using mobile network via SIM card."

The first dongle/data card it mentions is the "Huawei E3372 4G USB Internet Dongle/Data Card", which it says is a universal "data card" in India which supports 4G LTE. [https://www.digitaltrends.com/mobile/4g-vs-lte/ explains, as per my understanding of it, that 4G specification speeds are too high for mobile service providers (100 Mbps to 1 Gbps/1000 Mbps, if I got that right), and so the term 4G LTE (Long Term Evolution) was introduced which sort-of means that one is aspiring for 4G speeds but not there yet. Most mobile service providers in India who claim 4G speeds are actually 4G LTE speeds and NOT official 4G specification speeds.]

The above mentioned mi-fi.in best data cards in India article claims that the above mentioned "Huawei E3372 4G USB Internet Dongle/Data Card" works with all providers (UNLOCKED seems to be the key word here). So one has to just insert the mobile provider/network's SIM in the device and start using it for mobile Internet access. It says that it also works outside India, and that it is affordably priced! Sounds like a winner from a budget and utility point of view. But it does not have Wi-Fi i.e. it cannot act as a WiFi Hotspot device. I think, however, some people may prefer not having Wi-Fi support (at hardware level itself instead of it being a software settings configurable option) in such a device, and view that as a security advantage.

Here's this device being listed on Amazon.in for Rs. 2,999/=, (note the link may become obsolete in the near future) http://www.amazon.in/Huawei-Unlocked-E3372-Mbps-Dongle/dp/B01HBOB7DQ. The description for it on the page is as follows: "What this product does? Huawei E3372 is a high-speed 4G dongle that provides you with a secure and reliable internet connection. All you need to do is insert a data sim card of your choice, as the dongle is UNLOCKED, then it is ready to use. The best feature about the 4G dongle is that it has a fast download speed reaching up to 150 Mbps (megabit Per Second) so it is not just your average dongle. It is fast and extremely easy to operate; so mobile users can experience the best features of the E3372. A perfect companion if you travel to work by train, just plug in and enjoy your instant connection to the internet whenever and wherever you are. Fast Connection A secure download of 150 Mbps and upload speed of 50 Mbps. Allowing you to stream or download videos and films in no time! Travel Travelling to a different country and have no access to internet connection. Purchase a 4G Huawei E3372 and you will have no problem connecting to the internet abroad. Purchase a data sim card from the local area you will be staying in, connect and there you go internet access on holiday or at home!"

There seem to be cheaper such non Wi-Fi UNLOCKED (USB) dongles which claim to work for all networks (SIMs of various mobile service providers). E.g. Rs. 1,899 for Retail One Airtel Huawei 4G/3G/2G Data Card - Unlocked, weighing around 160 gms, http://www.amazon.in/dp/B01CI5C9AS.

G) Airtel wireless 4G devices, http://www.airtel.in/4g/index #!plans-and-devices/on-the-go, lists a 4G Hotspot at Rs. 1950/- and a 4G (USB?) dongle at Rs. 1500/-. But it does not list Puttaparthi as a 4G city, as of now. Hopefully that will change over the next few months.

The Airtel 4G prepaid plans do not seem to be competitive with Reliance Jio at least for heavy 30 GB per month kind of broadband usage. http://www.airtel.in/4g/index #!on-the-go _prepaid-carousel lists at the extreme right of its list, a 20 GB prepaid plan with validity of 28 days costing Rs. 994/-.

H) Idea 4G prepaid plans seem to be even less competitive than Airtel and Reliance Jio. https://www.ideacellular.com/4g has a 15 GB prepaid plan for Rs. 1495 with 1 year validity.

I) BSNL does not seem to be in the 4G market yet!

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Remaining points below deal with my landline broadband connection and NOT Mobile broadband

J) My BSNL broadband plan is "BBG COMBO ULD 999 - 8MBPS _25GB / 1 MBPS" i.e. 8 Mbps (and not 8 MBbs; it is Mega bits per second and not Mega Bytes per second) speed till 25 GB limit is crossed for a calendar month; after 25 GB limit is crossed speed drops down to 1 Mbps for the rest of the calendar month.

My usage in April 2017 in my bill is shown as 29553457 KB which one can ROUGHLY convert (divide by 1000 which is what BSNL may be doing for its bill calc. instead of dividing by 1024) as 29553.5 MB which can in turn be roughly converted as 29.6 GB!!! Hmm. So in April 2017 I used nearly 30 GB Broadband data! I think I must be averaging between 25 to 30 GB data usage per month on my BSNL broadband line.

The price per month is Rs. 999/= plus service tax (seems to be 15 %), and so the total bill per month comes to Rs. 1,149/=.

K) Some places (telecom circles) in Andhra Pradesh get 8 Mbps upto 60 GB under the same plan mentioned above (that I use)!

From http://www.ap.bsnl.co.in/flashapnews/Un %20Limited %20BB.html

BB HOME COMBO ULD 999, for ATP circle, 8 Mbps upto 25 GB, 1Mbps beyond

HYD circle and some others get for the same BB HOME COMBO ULD 999 plan: 8 Mbps upto 60GB, 2Mbps beyond

http://www.apbsnl.info/2012/11/bsnl-unlimited-broadband-plans-in.html states that "Revised Broadband Plans from 16-Aug-2016:" include:
Speed in Anantapur, Chittoor, Kurnool, Nellore, Warangal and West Godavari SSAs, for BBG Combo ULD 999, 8Mbps upto 25GB, 1Mbps beyond

It also confirms the higher 60 GB data limit (and higher after 60 GB data limit speed) for HYD and other circles for the same plan.

L) The extract below is from my recent post, Upgraded Dell Mini-Laptop from Windows 8 to 8.1; 3.62 GB + 750 MB download, posted on June 6, 2017, https://ravisiyer.wordpress.com/2017/06/-06/upgrading-dell-mini-laptop-from-wi ndows-8-to-8-1-3-62-gb-750-mb-download/. The extract deals with the time taken to download 3.62 GB of Windows 8.1 upgrade installation files and 750 MB Windows Update files after that on my home BSNL broadband connection.

- http://www.download-time.com/ provides a quick calculator to “calculate download time for a file depending on download speed.”
- At (supposed) 8 Mbps, 3.62 GB Windows 8.1 Download should take 1 hr, 4 min, 46 secs (presumes fast Download server not acting as a bottleneck).
- I guess what I typically get is between 6 to 7 Mbps download speed based on tests I have conducted in the past and also today on http://bsnlspeedtest.in/. The test today (6th June 2017 at 4:14 PM Indian Standard Time/10:44 AM UTC), http://openspeedtest.com/results/1197919 5, gave a download speed of 6.9 Mbps. At 6.5 Mbps, 3.62 GB Windows 8.1 Download should take 1 hr, 19 min, 43 secs (presumes fast Download server not acting as a bottleneck).
- The above is very close to the 1 hr 15 minutes time my log puts down for the actual download of Windows 8.1 upgrade. Hmm. Somehow I did not realize that I could get a Windows upgrade of

3.62 GB size from Microsoft site downloaded so fast in Puttaparthi, a rather rural place in India, all said and done. But that’s what I got! Great!

- At 1 Mbps, 3.62 GB Windows 8.1 Download should take 8 hr, 38 min, 15 secs (presumes fast Download server not acting as a bottleneck).
- Using the above calculator at 8 Mbps speed: 1 GB download – 17 min. 53 secs (presumes fast Download server not acting as a bottleneck).
- Using the above calculator at 6.5 Mbps speed: 1 GB download – 22 min. 01 secs (presumes fast Download server not acting as a bottleneck).

— end extract from https://ravisiyer.wordpress.com/2017/06/06/upgrading-dell-mini-laptop-from-windows-8-to-8-1-3-62-gb-750-mb-download/ —-

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A Pune, India based correspondent wrote (and was OK with sharing):

A few quick points:

1. I use Ookla to check broadband speed: http://beta.speedtest.net/ Works with any carrier.

2. Airtel 4G dongle just gave me about 27MB [Ravi: I think Correspondent meant 27 Mbps] download and 1MB [Ravi: 1 Mbps meant, I think] upload speed.

3. Airtel fails around once a month. There is either antenna failure, proxy failure or a planned shutdown. They are good at sending you endless messages in response to a complaint but slow at fixing the problem. They claim they will respond in three days: I told them they should call themselves the dumbphone network and not the smartphone network that they claim to be.

I pay Rs.2300 for 30GB a month postpaid. The rate came down slightly after Jio arrived on the scene.

There are few alternatives. The BSNL wired broadband is very slow where we live (often under 1MB [Ravi: 1 Mbps meant, I think] download) and there are frequent line problems. Jio is not sufficiently better to warrant a change. Vodafone and others are just getting into the 4G space in my locality.
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Reliance Jio 4G perhaps a long-term game-changer for affordable Internet broadband access in Puttaparthi (and elsewhere in India) (2017-06-08 00:21)

After I put up my recent post (and sent it on my very small mailing list) titled, Mobile 4G speeds, plans and dongle/hotspot devices in India; 3G speeds; BSNL landline Broadband plan & speed, https://ravisiyer.wordpress.com/2017/06/06/mobile-4g-speeds-plans-and-dongleh otspot-devices-in-india-3g-speeds-bsnl-landline-broadband-plan-speed/, I was informed about a very satisfactory experience with Reliance Jio 4G Internet service of a person (P) who resides in a village between 5 to 10 kms from Puttaparthi, and also spends time in Puttaparthi town.

Reliance Jio seems to have been made available in Puttaparthi and other parts of India around Sep/Oct. 2016. [https://en.wikipedia.org/wiki/Jio states the Jio 4G service launch date throughout India as Sept. 2016.] They came out with an extraordinary 4G Internet and phone calls service which was announced as free for three/four months (till Dec. 2016). P was using the same BSNL landline broadband plan in a Puttaparthi town flat, as mine - 8 Mbps till 25 GB per month, after which speed drops to 1 Mbps, at price of Rs. 1149/= per month (includes service tax). Now P not only uses the download facility extensively (seeing videos etc.) but also uploads large videos!

P decided to try out Reliance Jio in December 2016. It cost him just Rs. 100/= for the SIM card. P uses a Samsung DUAL SIM phone. So he had BSNL mobile SIM and Reliance Jio mobile SIM on his Samsung smartphone handset. The Jio 4G service itself, both Internet and phone calls, was free till end December 2016!! P was astonished not only with good download speed he got with Jio 4G as he could see videos without any buffering issues but saw that he could upload his large video files using his Reliance Jio mobile (after copying the large video file from his Laptop computer to mobile) in 1/3rd the time it took with BSNL landline broadband!!! Note that BSNL landline broadband upload speed is not all that great. For large (HD) video files, P would need around 10 to 12 hours (if I recall correctly) to upload using BSNL landline broadband. But with Reliance Jio 4G mobile Internet it took only 3 to 4 hours! Further P found that Reliance Jio signal strength and 4G facility was pretty good across Puttaparthi and surrounding villages. So he could have the upload going on, on his mobile, while he was travelling around Puttaparthi and surrounding villages!

In P’s village which is 5 to 10 kms away from Puttaparthi town, due to some issues, BSNL landline facility is not available. But Reliance Jio 4G facility worked well for him in his village too!!

P was overwhelmed with this ***free*** 4G service provided by Reliance Jio!! Further, Jio extended its free facility for three months till end March 2017. So P was able to enjoy 4 months of totally free 4G service from Reliance Jio. All he had to spend was Rs. 100 for the Reliance Jio SIM card!

P decided to cancel his BSNL landline broadband (Rs. 1149/= per month) as Reliance Jio was delivering him what he wanted for free initially, and at lesser cost after the free period got over!!! For Internet connectivity on his Laptop computer, P used his Samsung phone as a HotSpot device, enabling his Laptop to access Internet from his Samsung phone (and Reliance Jio 4G service) over WiFi!

P had not measured download and upload speeds for his Jio connection. But it was good enough for watching Internet videos without buffering and significantly faster than BSNL landline broadband for uploading large files. That’s what mattered to him!

After the free period got over, P took the around Rs. 500 plan (current data shows Rs. 509 for 84 days validity) which has a 2 GB per day limit. He tends to cross the 2 GB daily limit typically around 10 PM or so, at which time he simply stops using the Internet. Next day (at 2 AM the next day, to be precise), 4G speed Internet is available again to him on his mobile. And the plan lasts for nearly three months!

Ravi: I am astonished at how beneficial Reliance Jio has been to P even in his rural village in a rural district, Anantapur, of Andhra Pradesh. Mukesh Ambani, the billionaire boss of Reliance Jio, said, "Data is the new oil", and seems to have bet big money on a possibly game-changer 4G mobile broadband Internet service in India.

The question is whether Reliance Jio will be able to sustain these prices and these speeds over the long term. [Reliance Jio download (DL) speed was shown as 18.4 Mbps average across India when I checked with http://www.myspeed.trai.gov.in/ app. on 6th June 2017.] If Reliance Jio can sustain it then they will have to be credited with an extraordinary improvement in affordable Internet broadband using mobile 4G in many parts of India, including Puttaparthi and surrounding villages. That would be an extraordinary contribution from Reliance Jio to India’s (material) development as affordable broadband Internet access is a vital factor for such development. I congratulate Reliance Jio and its billionaire boss, Shri Mukesh Ambani, for delivering these services for the past around nine months so far in Puttaparthi and surrounding villages, and in other parts of India. Great contribution sir!
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After I came to know of the above very happy customer experience of P, I came to know of another Puttaparthi person’s (P2) very happy experience with Reliance Jio broadband. In December 2016, P2 was astounded to hear a person who was using Reliance Jio Postpaid plan (which provides better speed it seems than the then free service and now Prepaid service) on a Coolpad (Chinese brand) mobile phone, state that he was getting very high (download) speeds on his mobile Jio 4G Internet service. P2 who had so far seen only around 1.6 or so Mbps top speed in Puttaparthi for mobile Internet did not believe him and so used Ookla (http://beta.speedtest.net/) to check out the speed. P2 was astounded to see a speed of 81 Mbps on the other person’s Coolpad phone using Reliance Jio 4G Postpaid plan in Puttaparthi!!!

P2, who is a kind of hardware and computer & mobile systems seller and servicing tech-wizard who moved to Puttaparthi from a big city in India, quickly got a Reliance SIM card for his phone(s). It cost him a similar Rs. 100 or so to get the Reliance Jio SIM. The 4G and phone calls service was free (till end March 2017)! P2 measured the (peak) speeds he got with Reliance Jio 4G free service (not the postpaid plan) in Puttaparthi and found it to be 54 Mbps!! I double-checked that P2 did really get 54 Mbps in Puttaparthi!

Using his phone and help from friend(s) who also took Reliance Jio SIM card(s), he was able to use three mobile phone Internet connections in combination to do large downloads at night with each phone connection providing around 54 Mbps speed. P2 claimed that he downloaded 460 GB of data in this manner over the four months from Dec. 2016 to Mar. 2017 when the Jio 4G service was free!!! Unbelievable!!!

P2 is now on the Rs. 500 or so plan of Reliance Jio and continues to be very happy with its Internet speeds. But I don’t know whether he gets 54 Mbps speed now on Reliance Jio 4G in Puttaparthi.

Prior to using Reliance Jio 4G, P2 was using a private Internet over cable service which was giving 1 or 2 Mbps speed. Like P1 cancelled his BSNL landline broadband after experiencing Jio 4G Internet, P2 cancelled the private Internet cable service he was using, after he got very satisfied with Reliance Jio 4G.

But P2 also mentioned that he did face 4G coverage issues while he was moving around in Puttaparthi town especially for phone calls. He is of the view that 3G coverage for phone calls from providers like Idea, when he is moving around in Puttaparthi town, is significantly superior to Reliance Jio 4G.

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Ravi: I think Reliance Jio 4G service in Puttaparthi seems to have become a game-changer so far. What remains to be seen, especially from rural Puttaparthi perspective, is whether Reliance Jio 4G is here to stay or may disappear or become significantly more expensive in the coming months and years.

Going by its track record so far as well as the big name of billionaire Mukesh Ambani's Reliance mega corporation behind it, there does not seem to be any reason to seriously consider that it will not be there for the long term. I think I too need to seriously consider exploring Reliance Jio 4G broadband in Puttaparthi and if it works out well for me, then scale back my BSNL landline broadband plan to something much lesser, if something reasonable is available, than the Rs. 1149/= per month that I pay now.

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Open Signal (global) June 2017 4G LTE report notes Reliance Jio significantly boosting 4G availability in India

Open Signal LTE report seems to be a well known global 4G LTE report. Here's its June 2017 report, https://opensignal.com/reports/2017/06/state-of-lte.

Right in the beginning section of the report it notes the impact of Reliance Jio 4G (LTE) on India's 4G network availability. It states, "India shot up our LTE availability rankings, reflecting a rare instance in which a single operator can have an outsized impact on a mobile market in just a short time. Jio's nationwide 4G launch in September attracted 100 million LTE subscribers, making 4G services far more accessible in India but at the expense of lower average speeds."

In its global 4G availability chart, India now is ranked 15th in the world (over 100 countries seem to be listed), with a 4G availability of 81.56 %! South Korea tops the chart with 96.38 % 4G availability.

In what seems to be its immediately previous report dated Nov. 2016, https://opensignal.com/reports/2016/11/state-of-lte, India's 4G availability was 71.6 % with a rank of 24th in the world.

But in the global 4G speed chart (of June 2017 report) which goes by "average download connection speed", India is the second-last (over 100 countries seem to be listed)! India's average download connection speed for 4G is shown as 5.14 Mbps. Singapore tops the chart with 45.62 Mbps average download connection speed for 4G.

Ravi: Reliance Jio 4G has made a mark on the global 4G world by acquiring 100 million subscribers in India in six months (with its free offer for seven months from Sept. 2016 to Mar. 2017).

[I thank opensignal.com and have presumed that they will not have any objections to me sharing the above short extract and short data references from their report on this post which is freely viewable by all, and does not have any financial profit motive whatsoever.]

1.3 July

Desktop motherboard CMOS battery replacement (2017-07-10 21:54)

Some days ago (two to three weeks ago perhaps), my desktop PC's clock was losing time, a sign of CMOS battery dying. A few days later the BIOS startup screen started showing messages of corrupted CMOS but still allowed me to boot up the machine. Three or four days after that the PC did not even show the BIOS startup screen.

I found out that the battery to be replaced is CR 2032. Looked around for it in Puttaparthi as my regular computer service person was temporarily not available. Was directed to Oblesh watch repair guy, a friendly watch repairer who I have interacted with many times. Oblesh's son was manning the shop and gave me a CR 2032 H battery of Maxell for Rs. 50/-. This was perhaps three or four days ago.

I think this is the first time I am replacing the CMOS battery in my desktop PC. So, on my alternate comp. (DELL Mini Laptop), I tried to search for some info. on it. Here's a short video, How to Replace CMOS Battery in a Desktop Computer's Motherboard, https://www.youtube.com/watch?v=iNw-D7GEWQw, 1 min. 54 secs, which demonstrates how to use a screwdriver's flat edge to push against the clip and into the battery circular rim/edge to pop it out.

Putting in the new battery is simple. Just push it in the slot. The clip should automatically lock it in place.

Following the above instructions I replaced the old battery with the new one. But my PC did not show the BIOS screen. So changing the battery did not solve the problem.

Read up some articles on those who faced similar problems. Clearing the RTC RAM (CMOS battery powered memory) was a suggested step. The ASUS M2NPV-VM manual explains the procedure. Essentially the battery has to be removed, then the RTC RAM jumper position has to be changed for 5 to 10 seconds, after which the jumper has to be put back in its orignal position. Then the battery has to be put back in. That finishes the clearing RTC RAM (CMOS battery powered memory) procedure.

Followed these instructions. Struggled to remove the RTC RAM jumper with my fingers alone. Finally used a screwdriver head to hold one side of the jumper and succeeded in prising it out. Another jumper nearby was creating some interference. So I removed that jumper too. Putting the jumpers back on was quite easy.

However, even that did not solve the problem! The PC processor fan would spin but that's it. No beep from motherboard and no BIOS startup screen was being shown!

Read articles on the issue (using Google search) and saw some videos too. One suggestion was to remove the memory RAM sticks and check that the computer beeps on power on with no RAM. I tried it and I did get the beeps.

Plugged the RAM sticks back in and powered on the computer. Once again no beep and no BIOS startup screen.

Thought that the CR 2032 H battery may be the problem as the earlier (dead) battery was CR 2032 plain (no H). Was lucky to find a CR 2032 plain battery with another person in Puttaparthi for Rs. 20/- only. It stated Maxell on the packing but after I had come home and removed the battery from the packing, I saw that the battery itself states Maxtel instead of Maxell! So I seem to have got a Chinese low quality brand. Anyway, I decided to try it out. Putting this Maxtel battery in the motherboard did not solve the problem! Still no beep and no BIOS startup screen.

Eventually I thought I should reduce the RAM sticks on the motherboard. Reduced it from 3 sticks to 2 (each 1 GB RAM) with the 2 GB RAM stick removed. Now the computer powered up and booted OK! Success! What a relief!

Shutdown the computer. Now I added the 2 GB RAM stick. I think I may not have placed this 2 GB RAM stick properly earlier. Maybe that’s what tripped everything up. This time around I seem to have placed it correctly as when I powered on the computer, it booted and picked up the additional RAM (total 4 GB RAM)!

So problem was finally solved. But Oblesh told me today when I met him and spoke about the CR 2032 H and CR 2032 plain label batteries, as well as the Maxtel branded battery, that 2032 H should also work with the PC. He also said that the Maxtel brand is a "Chinese" brand and that it will not last long.

I guess I will continue with the Maxtel brand battery for now. I have the CR 2032 H, Maxell battery as spare.

Dell Support’s automatic diagnostic program fixed no audio problem on Mini Laptop after Windows 8.1 upgrade (2017-07-10 23:53)

Recently my desktop PC had a CMOS battery dead problem due to which it was down for some time. Meanwhile I switched to my alternative computer (alt comp), a Dell MiniLaptop.

I needed to see some videos about desktop PC not beeping and not showing the BIOS startup screen, which I had searched for on youtube and Google. On playing the videos I did not hear any audio. I spent fair amount of time checking out and trying to fix the builtin audio of the Mini Laptop, mainly with Control Panel Sounds program/app but got no success! I then tried to hook up an external speaker to the alt comp but once again I got no success with the sound.

Google search on the problem of Dell Mini Laptop having no audio (and audio being opened by another application as that’s the error I got on trying some configuration options for Sound) led me to various possible diagnoses and solutions.

1) One interesting situation that some had encountered was that they lost sound after upgrading from Windows 8 to Windows 8.1. Now that’s what I had done around a month back (in early June 2017, see https://ravisiyer.wordpress.com/2017/06/06/upgrading-dell-mini-laptop-from-wi ndows-8-to-8-1-3-62-gb-750-mb-download/). Perhaps that’s when I lost the audio but did not notice it as I did not play any video/audio then, and had kept aside my alt comp after the 8.1 upgrade, and worked on my regular desktop instead.

One solution suggested was restoring to previous system (using System Restore). I did not want to go back to Windows 8 due to the security vulnerability in it (Ransomware exploits) which is why I upgraded to 8.1.

Another solution was to uninstall a specific Windows update identified by its KB number. I searched for that KB number in the updates on my alt comp but did not find it.

2) Another solution mentioned was reinstalling some audio driver. I decided to try that option. To reinstall the audio driver I was directed to DELL support site.

I was surprised that when I went to the DELL support site link (perhaps it was some "Drivers & downloads" link), I was given the option to detect my system problem or something like that. The model name/entry for my DELL Mini Laptop was "Inspiron 3137". I don’t recall the exact option name now but I chose something that indicated that it would automatically examine my system for any audio category problems.

I think this was the link that I was at: http://www.dell.com/support/home/in/en/indhs1/product-support/product/inspiro n-11-3137/diagnose. I chose Sound Card (only) and then chose "Test Selected Devices" or something like that.

That needed me to download and install some DELL support program, which in turn needed another support program (Dell SupportAssist). Once I had done that, it went through some tests which required some input from me (interactive). It asked me to check sound from speakers by clicking on some icons and, to my surprise, the sound worked! So the process of the DELL support program automatically checking the sound (card) in the system, solved the problem for me! The rest of the diagnostics got over quickly with success result.

I was very impressed with DELL support website and its automatic diagnostics program.

Jio Mobile 4G and BSNL landline Broadband ROUGH speed data for my home PC in Puttaparthi (2017-07-29 18:40)

Given below are the rough conclusions drawn from my detailed speed tests (given towards the bottom of this post) done from 25th July 2017 to 29th July 2017 on my home desktop PC in Puttaparthi, Andhra

Pradesh, India:

[I am on 25GB _8Mbps BSNL landline broadband plan, and 399 plan on Jio which is 4G speed upto 1 GB data per day. I recently procured a (used) Huawei unlocked 3G/4G USB Dongle and then got a Reliance Jio SIM and connection package. I do not use the Jio SIM with a phone - I don't have a 4G phone. I use the JIO SIM, as of now, only with the USB dongle plugged in to my PC.]

A) BSNL Landline broadband speed is consistent in the range of 5.5 to 6.5 Mbps throughout the day.

B) Jio speed varies over time. This variance is over time periods like morning, afternoon, evening, late night and early morning, and also within each of these time periods. But one gets an idea of the average speed range within such time periods. Given below are my rough conclusions about typical speeds by quick look at the data and not a thorough analysis (so there could be slight errors in the rough conclusions). Further the data set is also not exhaustive.

TYPICAL JIO 4G SPEED for my home desktop PC (location) in Puttaparthi

- 3 to 7 Mbps: Morning and afternoon (say 6 AM to 5 PM) speed
- 2 to 6 Mbps: Evening (say 5 PM to 10 PM) speed
- 4 to 9 Mbps: Late night and early morning (say 10 PM to 6 AM) speed. There are transient highs of upto 16 Mbps

Typically with speeds of 3 Mbps and greater (and perhaps for 2 Mbps speeds too), youtube video playback is smooth without need (or very rare need) for pauses to buffer and even when playing it in full size on 21/22 in. desktop screen, the video is sharp and quite well-defined. Also Facebook loads fast and scrolling down on Facebook wall loads up images quickly (there may be some times when its loading of images is slow but that is usually transient, at such download speeds).

Youtube and Facebook are my litmus tests for acceptable Internet speed. In the above cases, the speeds are acceptable and sometimes really good (better than just acceptable).

After the 1GB data limit is crossed, Jio speed drops to 0.10 to 0.13 Mbps range [Official Jio post 4G speed is 128 Kbps]. Typically with such low speeds youtube video playback becomes sluggish needing multiple pauses for buffering, and the video becomes fuzzy especially on my 21/22 inch desktop screen. Also Facebook page loading is slow and scrolling down on Facebook wall shows up blank icons for images which take time to fill out with the actual images.

Unsurprisingly, these are unacceptably slow speeds for my regular Internet usage on desktop PC (perhaps mobile Internet performance may not be so bad).

Note that Jio data limit reset happens a few minutes after midnight 12:00 AM after which I get 4G speed again on the Jio connection.

C) I also checked out BSNL 3G mobile Internet speeds (as of now BSNL does not offer 4G Mobile Internet as far as I know, and for sure it does not offer 4G Mobile Internet in Puttaparthi). But it is offering pretty attractively priced mobile Internet data plans! So I thought of checking out BSNL

3G speeds. I got three readings of 0.12, 0.37 and 0.97 Mbps. I think typical BSNL mobile Internet speed when connected to my desktop in Puttaparthi would be around 0.5 Mbps. While this is better than the 0.10 to 0.13 Mbps range of post 4G data limit speed of Jio, it still is not good enough speed for my regular usage as youtube vidoes playback and Facebook loading of images would be slow.

DETAILED SPEED TEST LOG
Readers may feel free to skip the rest of this post as it has only the detailed log given below for the speed tests I conducted from 25th Jul 2017 till 29-Jul-2017.

Speed Tests for BSNL Landline Broadband, Jio 4G and BSNL Mobile 3G in end July 2017 are given below.

Only Download speeds are given below (using speedtest.net unless otherwise specified). Note that at times speedtest.net seems to have given faulty results.

There are two ways to connect to the Internet using Jio on PC. One way is to use the Huawei Mobile Internet application installed by installation process. This process is a little involved as one has to key in administrative password and then wait for the application user interface to come up. Then one can choose Connect in the app to make the Internet conection. The other way is to simply click the Windows 7 task bar LoopMobile icon which can be setup to automatically connect to Jio Internet on restart of PC. I was not sure initially whether there could be some speed differences between Huawei Internet Mobile app initiated connection and the Windows 7 Taskbar LoopMobile initiated connection, and so specified in the detailed log which connection mechanism I used to connect to the Internet. Now I don't think there is any speed difference between these two ways of connecting to the Internet.

On 25-Jul-2017
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Around 8.30 PM, Jio 4G on Dongle (using Huawei Internet Mobile App.) got speed of 2.06 Mbps
and a little while later 4.35 Mbps
At 10.34 PM it (Jio 4G speed) was (around) 3 Mbps

Switched to BSNL Landline broadband. Between 10.35 PM to 10.40 PM got speeds of (around) 6.5 Mbps
and 5.5 Mbps

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 11:28 PM - 5.93 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 11:34 PM - 2.53 Mbps

Using Huawei Mobile Internet App APN connection (jionet), at around 11:40 PM - 3.63 Mbps

On 26-Jul-2017
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Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 1:14 AM - 5.45 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 1:16 AM - 4.19 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 1:18 AM - 12.77 Mbps

With beta.speedtest.net
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 1:22 AM - 8.12 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 1:25 AM - 3.72 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 1:25 AM - 7.18 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 1:43 AM - 7.09 Mbps

Using Huawei Mobile Internet App APN connection (jionet), at around 1:55 AM - 8.84 Mbps
Using Huawei Mobile Internet App APN connection (jionet), at around 2:03 AM - 8.45 Mbps
Using Huawei Mobile Internet App APN connection (jionet), at around 2:30 AM - 8.53 Mbps

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 2:31 AM - 8.29 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 2:32 AM - 8.66 Mbps

[Continuing tests in evening of of 26-Jul-2017]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 9:43 PM - 2.37 Mbps

Used SMS DATA4 on 3G BSNL Nokia phone to get 20 MB data access (at lower price)
Connected Nokia E-52 to PC. Got prompt to run some Nokia setup program. Ran it.
Nokia PC Internet Access window popped up. AFter detecting it showed three bsnl connection options.
Went with the first bsnlnet. It connected.

Using BSNL 3G connection (bsnlnet) on Nokia PC Internet Access, at around 10:06 PM - 0.12 Mbps
Using BSNL 3G connection (bsnlnet) on Nokia PC Internet Access, at around 10:06 PM - 0.37 Mbps

Using BSNL landline broadband, at around 10:37 PM - 5.61 Mbps
Using BSNL landline broadband, at around 10:42 PM - 4.84 Mbps

Using BSNL 3G connection (bsnlnet) on Nokia PC Internet Access, at around 10:47 PM - 0.97 Mbps

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 11:15 PM - 4.05 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 11:29 PM - 6.29 Mbps

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 11:34 PM - 0.12 Mbps (midway; test takes too long to complete)!!!!
[Confirmed from Jio My Account that my Data balance from 1 GB limit for today (26-Jul-2017) is showing as 0!!!
No wonder Jio speed drops to something close to its specified 128 Kbps speed after crossing 1 GB for the day.

Even opening up youtube page with icons of its various videos is very slow.
Playing one video saw it stop at times for buffering and full window size video was not so clear.]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 11:47 PM - 0.14 Mbps (midway; test takes too long to complete)

[Facebook opens up quickly but takes a lot of time to finish loading. Scrolling down on Facebook wall shows blank icons instead of images.
Blogger loads a little slowly but is manageable.
Gmail is slow but manageable.
Google News opens a little slowly but images take time to get loaded.]

On 27-Jul-17
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Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 12:14 AM - 8.85 Mbps [Hmm. So the 1 GB data limit has got reset and my speed has jumped up to 4G levels. I was checking the speed a few times after 12:00 AM using fast.com (it gives the speed more quickly but don't know how accurate it is) and Ookla too, if I recall correctly but it was at the 128 Kbps level for the first ten or twelve minutes after 12:00. Checking the Jio My Account (refreshing it every time) multiple times during this period gave Data as 0 (indicating limit has been crossed and data limit has not been reset).

But at 12:17 AM when I checked (after refreshing) Jio My account, it showed Data as 1 GB with a message "Renews in 23 hours".

Therefore Data reset is not at 2.00 AM as I was informed by somebody in the past. It is just ten to fifteen minutes after midnight now. Maybe it was being reset at 2.00 AM in the past.]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 12:28 AM - 9.88 Mbps

Using BSNL Landline Broadband, at around 12:42 AM - 6.69 Mbps

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 10:48 AM - 3.18 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 12:38 PM - 6.14 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 12:40 PM - 21.79 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 12:44 PM - 11.50 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 12:56 PM - 5.40 Mbps

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 2:54 PM - 5.72 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 2:56 PM - 1.81 Mbps

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 3:47 PM - 5.66 Mbps

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 4:16 PM - 4.31 Mbps [http://www.speedtest.net/my-result/6489677436 has record. Note time is 10:46 AM GMT not 4:16 PM IST]
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 4:21 PM - 5.99 Mbps [http://www.speedtest.net/my-result/6489687629]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 6:21 PM - 7.18 Mbps [http://www.speedtest.net/my-result/6489960067]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 9:43 PM - 10.42 Mbps [http://www.speedtest.net/my-result/6490503286]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 10:24 PM - 2.09 Mbps [http://www.speedtest.net/my-result/6490608927]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 10:25 PM - 4.33 Mbps [http://www.speedtest.net/my-result/6490612592]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 10:26 PM - 3.24 Mbps [http://www.speedtest.net/my-result/6490616002]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 11:14 PM - 8.64 Mbps [http://www.speedtest.net/my-result/6490735699]

[11:49 PM: I crossed 1 GB Data limit as per Jio My Account info. So 4G speed is not available till I get a Data reset sometime around 00:10 to 00:15 on 28-Jul-2017]
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 11:58 PM - 0.10 Mbps [The speedtest progress bar seems to freeze in the middle though the current speed changes at times (usually in 0.10 to 0.13 Mbps range).]
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 11:59 PM and using fast.com - 170 Kbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 12:00 PM and using fast.com - 170 Kbps

28-Jul-2017
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Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 00:02 AM and using fast.com - 170 Kbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 00:04 AM and using fast.com - 170 Kbps

[The Data reset seems to have happened between 00:04 AM and 00:06 AM as 4G speeds were resumed.]
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 00:06 AM and using Ookla - 12.11 Mbps [http://www.speedtest.net/my-result/6490862168]
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 00:07 AM and using fast.com - 13 Mbps
[12:10 AM: Jio My Account shows 1023.99 MB (remaining) Data from 1 GB with message "Renews in 23 Hours".]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 00:22 AM and using Ookla - 1.31 Mbps [http://www.speedtest.net/my-result/6490901013]
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 00:23 AM and using fast.com - 5.4 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 00:25 AM and using Ookla - 8.42 Mbps [http://www.speedtest.net/my-result/6490909394]
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 00:32 AM and using Ookla - 9.30 Mbps [http://www.speedtest.net/my-result/6490929442]

[12:34 AM: Jio My Account shows 932.94 MB (remaining) Data from 1 GB with message "Renews in 23 Hours".]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 01:47 AM and using Ookla - 16.73 Mbps [http://www.speedtest.net/my-result/6491104328]
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 01:50 AM and using fast.com - 14 Mbps

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 02:11 AM and using fast.com - 14 Mbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 02:13 AM and using Ookla - 15.97 Mbps [http://www.speedtest.net/my-result/6491157056]
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 02:15 AM and using Ookla - 14.74 Mbps [http://www.speedtest.net/my-result/6491160194 - Note result here shows 14.75 a 0.01 Mbps higher figure than in main window.]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 11:10 AM and using Ookla - 8.97 Mbps [http://www.speedtest.net/my-result/6492026831]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 2:39 PM and using Ookla - 7.86 Mbps [http://www.speedtest.net/my-result/6492407839]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 4:26 PM and using Ookla - 4.80 Mbps

[Around 4:56 PM I saw a youtube video having to buffer while playing. As I had got a 90 % of 1 GB data for the day used at 16:10 hours notification mail from Jio, I was expecting it to cross 1 GB while I was watching videos later on. So it seems to have crossed 1 GB limit around 4:56 PM.]
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 4:57 PM and using fast.com - 28 Kbps
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 5:00 PM and using Ookla - 3.93 Mbps [http://www.speedtest.net/my-result/6492703809]
[Oh! That means I have still not crossed 1 GB data limit! Maybe the earlier slowdown was a passing tech. problem OR wrong results from fast.com.]
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 5:04 PM and using Ookla - 8.21 Mbps [http://www.speedtest.net/my-result/6492708699]
Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 5:06 PM and using fast.com - 170 Kbps

[5:07 PM: Jio My Account shows 0 MB Data (remaining). So I have crossed the 4G speed data limit for today.]

[5:13 PM: Youtube video playback is sluggish and the video, especially at full screen (on my 21/22 inch desktop screen), is fuzzy.]

Using Windows 7 Taskbar LoopMobile APN connection (jionet), at around 5:16 PM and using Ookla - 4.07 Mbps [http://www.speedtest.net/my-result/6492735306]
Hmm. The above speed does not match my sluggish youtube video playback! Or slow Facebook load and slow display of images in it.

This behaviour of Ookla speedtest puts into doubt all Ookla results above!!!

Looked up other speed test links.

5:30 PM: Using http://speedtest.att.com/speedtest/ - 0.06 Mbps
5:34 PM: Using http://www.bandwidthplace.com/ - 0.16 Mbps

5:36 PM: Using Ookla, http://www.speedtest.net/ - 4.39 Mbps !!!! Something has gone drastically wrong with Ookla.

[5:40 PM: Disconnected Jio. Removed USB Dongle. Put on BSNL Landline broadband.]
5:43 PM: Using speedtest.att.com/speedtest/ - 5.13 Mbps
5:45 PM: Using bandwidthplace.com/ - 1.50 Mbps
5:46 PM: Using fast.com - 4.4 Mbps
5:47 PM: Using Ookla, speedtest.net/ - 6.53 Mbps
5:50 PM: Using Ookla BETA, beta.speedtest.net/ - 3.16 Mbps

[At 5:54 PM: Youtube video playback (same video which had become sluggish and fuzzy) has become smooth (no pause for buffering) and the video has become clear. I think that’s what really matters to me in my regular Internet usage. If youtube video playback is without pauses and the video is clear/sharp (not fuzzy) on full screen on my 21/22 inch screen then I have the Intenet speed that is adequate for my regular needs.]

29-Jul-2017
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Am now on Jio 4G (BSNL Broadband modem SWITCHED OFF).

At 10:27 AM, using speedtest.att.com/speedtest/ - 3.73 Mbps
At 10:29 AM, using fast.com - 4.4 Mbps
At 10:30 AM, using speedtest.net/ - 7.90 Mbps
At 10:31 AM, using beta.speedtest.net/ - 6.20 Mbps

At 4:32 PM, using fast.com - 7.33 Mbps
At 4:34 PM, using speedtest.att.com/speedtest/ - 8.43 Mbps
At 4:36 PM, using speedtest.net/ - 2.85 Mbps

At 4:32 PM, using fast.com - 120 Kbps
At 4:55 PM, using speedtest.att.com/speedtest/ - 0.09 Mbps
[At 4:56 PM My Jio account shows 0 MB data (available) from 1 GB. This time around I did not get 50 % or 90 % used notification mails from Jio! That explains the drop in speed in above two tests.]

[At 5:00 PM. Disconnected from Jio and removed USB dongle from PC. Switched on BSNL Landline broadband.]
At 5:01 PM, using speedtest.att.com/speedtest/ - 6.39 Mbps
At 5:02 PM, using fast.com - 5.3 Mbps
At 5:03 PM, using speedtest.net/ - 6.22 Mbps
At 5:05 PM, using beta.speedtest.net/ - 6.08 Mbps

[Around 5:15 PM: My Jio Account gives a blank Usage graph. There seems to be some reporting problem here.]

Planning to have Jio 4G mobile Internet 399 pkg + Lower cost BSNL 470ULD Landline broadband (2017-07-30 01:52)

Last updated on 14-Aug-2017
My usage of, and speed tests of Jio mobile 4G over the past few days [see Jio Mobile 4G and BSNL landline Broadband ROUGH speed data for my home PC in Puttaparthi https://ravisiyer.wordpress.com/2017/07/29/jio-mobile-4g-and-bsnl-landline-br oadband-speed-comparison-for-my-home-pc-in-puttaparthi/ for details] have made me think seriously about changing my Internet broadband plans from what I have now.

For the past few years I have been using the Rs 999 + service tax (coming to slightly less than Rs. 1150) per month plan of BSNL Landline broadband named BB Home Combo ULD999 which claimed to provide upto 8 Mbps speed (actual speed would be btw 5.5 and 6.5 Mbps) for first 25 GB of data in a month, and 1 Mbps speed beyond that. [See http://www.ap.bsnl.co.in/flashapnews/Un %20Limited %20BB.html for info. about these plans.] My Internet usage is heavy with a lot of youtube video watching as well as Facebook wall scrolling (lots of images get shown on Facebook wall) on a 21.5 inch desktop screen, which I think consumes significant amount of data. It is not unusual for me to cross 30 GB data usage in a month.

Till Reliance Jio 4G Mobile Internet came into the picture in Puttaparthi some time last year, I did not have any good alternatives IN PUTTAPARTHI to the above BSNL broadband plan, which (alternative) gave me say around 4 Mbps speed for 25 GB for a month. Jio has been a game changer. Under its Rs. 399 plan for Jio Prime members, I get 2/3 Mbps to 9 Mbps speed for 1 GB data per day, for 84 days. Adding the Jio Prime membership annual fee of Rs. 99/-, that works out to somewhere around Rs. 150 per month.

Jio also has other plans with 2 GB per day limit and without any data limit per day, https://www.jio.com/en-in/4g-plans.

[14-Aug-2017 Update. The following statements of the post (in quotes) are incorrect,

"A month back my BSNL ULD999 plan’s total charges per month came down by around Rs. 200, from slightly less than Rs. 1150 to Rs. 958 per month. So the Jio effect seems to have reduced my BSNL landline broadband charges."

Today (14th Aug.) I got a BSNL broadband bill for Rs. 1356, which is Rs. 200 more than the usual around Rs. 1150 p.m. that I used to be charged earlier. On looking at the details I saw that I was charged for three periods:

a) 26/06/2017 to 30/06/2017 (as per ULD999 plan, I guess) - Rs. 166.50

b) 01/07/2017 to 30/07/2017 (as per ULD999 plan, I guess) - Rs. 966.77

c) 31/07/2017 to 31/07/2017 (as per ULD470 plan, I guess) - Rs. 15.16

That totals to 1148.43. Adding Rs. 1 (after discounts) for local calls and GST of Rs. 206.90, the total bill comes to Rs. 1356.33 (rounded to 1356.00).

I wasted some time trying to unsuccessfully locate my previous bill (for June 2017). Fortunately, I was able to download a softcopy from BSNL selfcare site. That bill states that due to "administrative reasons" (I guess, GST is the reason), the bill was for period up to 25.06.2017 and that the next cycle will have the bill from 26.06.2017. I did not read this stuff in the paper bill a month ago, as I had only a fleeting glance at it then, leading me to WRONGLY think that BSNL may have reduced the price of its ULD999 plan to compete with Reliance Jio. end-Update of 14-Aug-2017.]

I am somewhat hesitant to continue with the BSNL ULD999 plan. Neither do I want to terminate my BSNL landline + broadband connection. I think a good solution would be to have both - a reasonable Jio 4G plan and a reasonable BSNL landline broadband plan.

I will use the Jio 4G plan as my main plan. But on days where I exceed 1 GB data limit I will switch to the BSNL landline broadband plan. Of course, if for some other reason Jio 4G is down (before 1 GB data limit is reached for the day), BSNL landline broadband becomes my backup Internet broadband connection.

I am seriously considering moving from BSNL ULD999 plan to BBG Combo ULD470 plan which gives 2 Mbps speed till 10 GB per month and 1 Mbps speed beyond that. Note that the ULD470 plan is the lowest priced BSNL broadband plan for existing customers (new customers have a 249 plan which automatically upgrades to ULD470 after a year, if I recall correctly).

The monthly charges are listed as Rs. 470 (+ 18 % tax). This could be viewed as minimum landline monthly charge of around Rs. 240 + Rs. 230 for broadband Internet (+ 18 % tax). Total charge should be 470 + 85 = 555. So I will save around Rs. 400 from the Rs. 958 per month I am currently paying for ULD999 plan. As Jio 4G 399 plan with annual Prime membership fee of Rs. 99, comes to around Rs. 150 per month, the effective saving will be Rs. 250 per month.

A downside will be that the BSNL BB connection speed will not be 8 Mbps (claimed) and its upto 2 Mbps speed claim may turn out to be around 1.5 Mbps in practice.

BSNL allows broadband plan change once a month from its self care service website. BSNL landline broadband helpline told me that the change is done immediately (meaning partial bills for two separate parts of the month if plan is changed during the month). So I intend to make the above mentioned plan change and see how it works out.

1.4 August

Changed BSNL BB plan to 470ULD; using Jio 4G mobile Internet as primary and BSNL BB as secondary (2017-08-06 21:35)

This post has log entries and follows up on this post: Planning to have Jio 4G mobile Internet 399 pkg + Lower cost BSNL 470ULD Landline broadband, https://ravisiyer.wordpress.com/2017/07/30/planning-to-have-jio-4g -mobile-internet-399-pkg-lower-cost-bsnl-470uld-landline-broadband/, dated 30th July

2017.

Log entries covering 30th Jul and 31 Jul 2017

A little before 6 PM on 30-Jul-2017 initiated via BSNL selfcare website, change of BSNL landline Broadband (BB) plan from ULD999 to ULD470. Got an SMS that the request has been received and that it may take 2 to 3 business days to implement
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Around 11 PM on 31-Jul 2017 I logged into selfcare BSNL and noted that it showed that plan change to ULD470 was done today (31-Jul-2017). I did not get any SMS saying so!
DL Speed on ULD470 BSNL (landline) BB plan can be noticed as slower than earlier plan. But speed is still OK as given below (have not tried youtube videos yet).

- Ookla - 2.69 Mbps
- fast.com - 1.7 Mbps
- att speedtest - 2.18 Mbps
- Ookla beta - 1.41 Mbps

6-Aug-2017 Update

I got an SMS on Aug. 1st 2017 that my "request for Modify (Broadband Modify)" which would be referring to my BSNL BB plan change request from ULD999 to ULD470 has been "provisioned" (made effective).

So from 1st Aug. 2017 I have been first using Jio Mobile Internet and when its usage crosses 1 GB resulting in very slow speed of around 130 Kbps, which has happened for some though not all days so far in Aug, I switch to BSNL (landline) BB. BSNL (landline) BB, I am glad to say is giving me 2 Mbps or slightly above 2 Mbps speed (never touched 3 Mbps, if I recall correctly but did show around 2.5 Mbps at times) as measured by fast.com, att speedtest and Ookla [advertised speed for ULD470 is 2 Mbps till 10 GB usage in a month after which it drops down to 1 Mbps.] Watching youtube videos on this 2 Mbps speed connection usually does not involve pausing for buffering, but sometimes (and for some youtube channels particularly) it does pause for buffering. Facebook wall scrolling at times shows no images and one has to wait a few seconds for the images to be shown. So one can see the slightly negative impact of 2 Mbps speed connection (as compared to BSNL landline ULD999 plan 8 Mbps speed and even Jio most-of-the-time speed of 4 Mbps or higher) on youtube video viewing as well as Facebook wall scrolling.

On one particular day where I was using the Internet for a couple of hours after midnight seeing a lot of videos and pics (e.g. Facebook wall scrolling shows a lot of pics), Jio crossed 90 % of the 1 GB per day limit! So exhausting 1 GB limit (or even 2 GB limit if I take such a Jio plan) on some days seems to be NOT UNUSUAL for me.
I also had some questions about whether Jio data usage reporting is accurate. I made an attempt to use BitMeter2 to measure data usage but that did not work out well (perhaps I did not use it properly), and so I have uninstalled BitMeter2.
Don’t know how long the 10 GB data limit (for 2 Mbps speed) of my current BSNL plan - ULD470 - will

last this month.

Just checked "Cumulative Unbilled Usage" using BSNL selfcare portal from 1-Aug-2017 to 6-Aug-2017 (today). The total (download + upload) figure is given as 849.62 MB! Hmm. Less than 1 GB data usage so far! I think I avoided viewing lots of videos when I was on BSNL BB, in this month. Perhaps that's the reason why I have not crossed 1 GB total usage so far on BSNL BB.

The "BB Session Unbilled Usage" gives the detailed break up for above period (1st Aug. to 6th Aug.), as follows:
Session Start Date & Time Session End Date & Time Upload(MB) Download(MB) Total Units(MB)

04-08-2017 22:22:56 05-08-2017 00:14:54 12.55 118.32 130.87

04-08-2017 20:36:55 04-08-2017 21:38:57 6.93 57.75 64.68

04-08-2017 15:04:39 04-08-2017 17:09:12 24.02 493.7 517.72

02-08-2017 23:20:13 03-08-2017 00:59:46 9.25 127.1 136.35

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Interesting! I think 4th Aug. was when I had consumed 90 % of Jio 1 GB data limit in the early morning hours. In the late morning and afternoon I may not have watched videos or seen pages with many pics which is why the 1 GB data limit got crossed only around 3 PM, at which time I switched to BSNL landline BB (ULD470).

I don't recall whether on 1st and 3rd Aug. I had stayed within 1 GB Jio limit and so had not used BSNL landline BB. Tried to check with Jio Data usage stats. Unfortunately it is showing 0 data usage for Aug. 1st to Aug. 3rd (which is an error as I surely have used Jio on those days quite a bit; unfortunately Jio portal data usage stats are not maintained/shown properly; BSNL selfcare portal is far superior to Jio in this matter as its broadband data usage stats are maintained and shown well). The Jio usage shows (in MB) 1096 for Aug. 4th, 482 for Aug. 5th and 407 for today, Aug. 6th, so far [It is around 9 PM now]. I don't recall using BSNL BB yesterday (5th Aug.) and so far today (6th Aug.)

Readings of Jio 4G Mobile Internet speed (before crossing 1 GB per day limit on 399 Plan) on 6th Aug. 2017
At 10:31 PM using fast.com - 6.3 Mbps
At 10:35 PM using Ookla - 2.71 Mbps
At 10:36 PM using att speedtest - 2.15 Mbps
At 10:37 PM using fast.com - 7.3 Mbps
At 10:38 PM using Ookla - 4.32 Mbps
At 10:40 PM using att speedtest - 4.28 Mbps
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Disconnected Jio connection and removed Jio USB dongle.
Switched on BSNL landline Broadband (470ULD plan with 2 Mbps speed till 10 GB consumption per month; am way below 10 GB consumption for this month as of today).

Readings of BSNL landline BB speedtest:
At 10:46 PM using fast.com - 2.1 Mbps
At 10:47 PM using Ookla - 2.54 Mbps
At 10:49 PM using att speedtest - 2.44 Mbps
At 10:50 PM using fast.com - 2.2 Mbps
At 10:51 PM using Ookla - 2.60 Mbps
At 10:52 PM using att speedtest - 2.15 Mbps

Are JioFiber offers/rumours for real? 100 Mbps speed for 100 GB data for Rs. 500 per month! Comparison with other vendor plans in India (2017-08-07 02:09)

Last updated on 8th Aug. 2017

From http://gadgets.ndtv.com/internet/news/jio-broadband-jiofiber-launch-reliance- mukesh-ambani-1727630, dated 21st July 2017

According to the listing, and brochures its representatives have distributed in select home complexes, the company intends to offer 100Mbps connection with a 100GB data cap (with 1Mbps from there onwards) for free to customers for a period of three months.

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From Jio Fiber Plans, Location Accidentally Revealed; Free 100GB Data P.M At 100 Mbps For 3 Months!, http://trak.in/tags/business/2017/07/12/jio-fiber-plans-locations-price/ dated 17th July 2017

As per the contents of the hidden website accessed by us, Jio is going to offer 100 GB of data, at a speed of 100 Mbps, and the services shall be free for 3 months. Once 100 GB is consumed within a month, then the speed will drop to 1 Mbps.
...
Earlier, it was rumoured that Jio Fiber will offer 100 GB of data at Rs 500 per month, and the services would be launched from Diwali onwards.

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Ravi: The article also talks about a security deposit of Rs. 4500.

The lucky cities where the leak says it will be rolled out first are Ahmedabad, Delhi, Hyderabad, Jaipur, Kolkata, Mumbai, Surat, Vadodara, and Vishakhapatnam.

7-Aug-2017 Update

I later came to know (details given later on in this post) that BSNL is offering in Hyderabad, a fibre optic based service of 50 Mbps up to 150 GB for Rs. 1045 + tax per month, and a copper wire based service of 24 Mbps up to 100 GB for Rs. 1045 + tax per month. In Puttaparthi, the best speed plans of BSNL are 8 Mbps on Copper wire and I was using one of them till last month - 8 Mbps up to 25 GB for Rs. 999 + taxes per month (an alternate of 8 Mbps up to 60 GB was also available for around the same price, which I had not noted). Puttaparthi does not have fibre wire Internet (from BSNL at least).

Given this data, the Reliance JioFiber option for big cities in India (like Hyderabad) is a more attractive choice but cannot be viewed as very disruptive. It will become disruptive in India ONLY IF Reliance JioFiber penetrates smaller cities and towns (like Puttaparthi) in India, where BSNL currently provides only 8 Mbps max speed connections and there seem to be practically no other competitors to BSNL today for even 8 Mbps fixed line broadband. I mean, Reliance Jio Mobile 4G LTE Internet being offered in Puttaparthi became a game-changer (very disruptive force) in Puttaparthi Internet broadband services field. This was for both mobile and landline broadband, as many but not all landline broadband connections - mainly BSNL but I guess that it would have been similar for a small private operator who was the only fixed line Internet alternative to BSNL in Puttaparthi - were closed due to people switching to Jio 4G Mobile Internet. If Reliance JioFiber is offered in Puttaparthi then it surely will be another and more powerful than Jio 4G LTE, disruptive (game-changer) force for BSNL, the main fixed line Internet broadband provider in Puttaparthi.

I felt it appropriate to do some reading up on very high speed (100 Mbps to 1000Mbps/1Gbps) fixed line (landline) Internet services in India. I have been living in Puttaparthi, Andhra Pradesh, for nearly 15 years now, where the only big company fixed line Internet service is from the govt. owned BSNL which, as far as I know, does not have fibre optic cables laid in Puttaparthi. My around decade old BSNL fixed line service is currently provided through a copper wire connection which is an overhead line (as, I guess, underground cables are hard to lay in Puttaparthi town). The BSNL fixed line broadband options that I can avail of are, as far as I know, what's shown in this webpage: http://www.ap.bsnl.co.in/flashapnews/Un %20Limited %20BB.html. Note that the highest speed for any plan in this webpage is 8 Mbps. The more optimal for broadband usage alone is the "BBG Combo ULD 995 CS186" plan giving "8 Mbps upto 60 GB, 2 Mbps beyond" for Rs. 995 (+ tax) per month and is available in many telecom areas including Anantapur (which services Puttaparthi) but not all telecom areas in Andhra Pradesh. Note that SSAs are Secondary Switching Areas which I am translating as a telecom areas in this post.

While I was aware that cities in India do have much higher speed fixed line broadband options from BSNL itself, besides Fibre based Internet from private companies, I did not spend much time on getting to know those options. I had the impression that those options were much more expensive than the around Rs. 1000 + taxes per month plans that provided 8Mbps speed in most telecom areas of BSNL Andhra Pradesh including Puttaparthi.

On looking up the Internet, here's what Hyderabad (and a few other cities/telecom areas) has on offer now from BSNL itself: http://www.ap.bsnl.co.in/flashapnews/HTD %20specific %20plans.html. Note that these plans are NOT available for Anantapur SSA (which is what services Puttaparthi) and so not available for me. The best speed non-Fibre (Copper wire, I guess) plan is "BBG Super speed Combo ULD 1045 VDSL CS 149" giving "24 Mbps upto 100 GB beyond 4 Mbps" for Rs. 1045 (+ tax) per month, available ONLY TO HTD SSA [HTD seems to stand for Hyderabad Telecom District].

There are two best speed 50 Mbps fibre plans. The less expensive one of them is "Fibro Combo ULD 1045 CS35" giving "50Mbps upto 150GB, 4 Mbps beyond" for Rs. 1045 (+ tax) per month, available to Hyderabad and Medak telecom areas ONLY. The webpage does not list any fibre plans available for any other telecom areas in Andhra Pradesh and Telengana. So that means only Hyderabad and Medak areas seem to be serviced by Fibre optic Internet by BSNL Andhra Pradesh and Telengana.

I find the 24 Mbps till 100 GB copper wire plan and 50 Mbps till 150 GB fibre wire plan of BSNL both of which are priced at Rs. 1045 (+ tax) to be very attractive. However, I repeat, they are available ONLY in Hyderabad and Medak and not in Anantapur telecom area!

This page, Broadband Internet service on FTTH, http://www.bsnl.in/opencms/bsnl/BSNL/services/broadband/bb _ftth.html, seems to give the general BSNL Fiber broadband (FFTH) service plans. It does not mention the areas where these services are available. For the 100 Mbps plan it lists, "FiBro ULD 16999" giving "upto 100 Mbps till 800GB, Upto 4 Mbps beyond", the price is an astronomical Rs. 16999 (+ tax) per month! [I think I must have seen such very expensive high speed (50 Mbps +) plans of BSNL in my earlier browsing (say a year or two ago) and so ignored them as they are not only well beyond the affordable range of most Indian middle-class homes, but are hard to justify for most of those relatively fewer Indian middle-class homes that can afford it.]

Here's a recent news article, BSNL to offer ultra-fast 1,000 Mbps broadband connection, http://www.livemint.com/Industry/w3LceGfpoPP2z3DNoFspdJ/BSNL-to-offer-ultrafa st-1000-Mbps-broadband-connection.html, 14th July 2017

Some small extracts from the article are given below:
" Telecom minister Manoj Sinha on Friday launched a next generation optical fibre-based technology on the BSNL network that will enable the state-run firm to provide broadband connection with download speed of up to 1,000 Mbps.

Bharat Sanchar Nigam Ltd (BSNL) at present offers broadband facility with top download speed of 100 Mbps on its fibre-to-the-home network."
...
"BSNL chief general manager (CGM) Anil Kumar Jain said the company is offering top speed of 24 megabit per second for fixed line broadband connection and 100 mbps speed on FTTH network.

“With this upgradation, we will be able to provide connection with speed of up to 1 gigabit per second on FTTH networks in all state capitals and other top cities,” Jain said."

Ravi: So this recent news article confirms that as of middle of last month, BSNL copper wire top (Download) speed is 24 Mbps and Fibre wire (to home) top DL speed is 100 Mbps. BSNL plans to upgrade its fibre (to home) top DL speed connections to 1000 Mbps/1 Gbps. But that will be available only in big cities in India. Puttaparthi is not a big city and so one wonders if and when BSNL will provide fibre Internet (to home) connections in Puttaparthi.

The fastest wired broadband internet service providers in India, http://www.firstpost.com/tech/news-analysis/the-fastest-wired-broadband-interne t-service-providers-in-india-3698701.html, 3rd March 2017.

The above article covers a lot of private and govt. telecom companies' very high speed broadband offerings.

It reports that Airtel slashed its prices (around March 2017). In Mumbai, Airtel was offering Fibre broadband of 100 Mbps up to 500 GB data for Rs. 3,999 per month, and a cheaper plan of 100 Mbps up to 200 GB for Rs. 2,099 per month.

MTNL (a govt. owned company) in Mumbai, is offering 50 Mbps up to 375 GB at Rs. 4,999 per month, and 100 Mbps up to 900 GB at Rs. 7,999 per month.

Hayai (never heard that name before) is offering in Mumbai, a 10 Gbps (yes, 10 Giga bits per second) plan up to "all you can eat" i.e. no limit whatsoever, for Rs. 19,999 per month. The cheapest plan listed is 1 Gbps up to 750 GB for Rs. 7,349 per month.

You Broadband (don't think I heard this name earlier) offers 100 Mbps up to 250 GB for Rs. 1,572 per month in many cities in India including Mumbai, Hyderabad, Chennai and Bengaluru. [Ravi: Hmm. This seems to be quite attractive.]

Act Fibrenet is offering in Hyderabad, 1 Gbps up to 1000 GB (1 TB) for Rs. 5,999 per month.

Nextra Fibrebold is offering in some (housing) societies in Delhi, 100 Mbps up to 50 GB for Rs. 2,999 per month.

Tata Docomo is mentioned as offering 100 Mbps plans in cities in many states of India. In Mumbai, its 100 Mbps plan up to 200 GB is priced at Rs. 3,299 per month.

The article also mentions BSNL Fibro ULD servicing 97 cities in India costing a steep Rs. 16,999 per month for 100 Mbps up to 600 GB. [I have mentioned this or a similar plan earlier in this post update.]

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8-Aug-2017 Update

A Pune based Indian correspondent wrote in response to above (over email and was OK with sharing publicly):

You mention the maximum promised speeds of various networks. One question is, what is the average speed as that is the figure that is important. Potentially, a network may be capable of delivering 100Mbps speeds but in practice the speeds may be slower. That is my experience with Airtel 4G, Vodafone 3G dongle and BSNL.

The BSNL high speed service is also patchy in some cities. We live in Koregaon Park, which is fairly central, and the maximum speed offered is 8Mbps (and the actual speed close to 1-2Mbps). BSNL people say the maximum speed depends on the local exchange (our exchange is fairly new). Perhaps around government offices the speed is higher.

The other networks in this area are Hathway which reputedly gives up to 50Mbps on a line and You (which you have already mentioned). Any service relying on a line (fibre or copper) will depend on whether the provider has permission to lay lines, as well as space for a base/distributor station. I have contacted Hathway several times and while they have reached Koregaon Park they say it will take time before they can offer the service in our lane. By the way, Hathway has a good reputation in other parts of the city.

My Airtel service is down for about two days a month. It was down on Sunday and Monday and

I contacted their help line to be told that they have identified the problem and the solution and are working out how to implement it smoothly. No time line offered: customers must wait and see. The service seems to be working today (Tuesday) with maximum download speed at 7:00am of around 6-9Mbps. Perhaps the customer help line people don't really know what is going on and just give stock answers!

Airtel used to charge me Rs.2000 (plus taxes) for 25GB per month and have now revised it to 30GB for the same price. I don't have much choice but to stay with them until I hear what Jio is like in this area.

I will be interested to know how well Jio performs in Puttaparthi: both the average speed and the reliability. No hurry – you can tell me after your have used it for a few months!
—

I (Ravi) responded (slightly edited):

Thanks –name-snipped– for your response. It brings in real-life Internet broadband issues faced by you in Pune which is vital info. in the context of advertised claims of Indian broadband service providers, especially with respect to speed.

The fact that even though you live in a central part of Pune, a major city in India which is serviced by some fibre broadband private companies, as of now you still do not have the Fibre broadband option in your lane, is a reality that perhaps would be shared by many in major cities in India. I hope that changes quickly for you. Hathway, the service you mentioned, has this very attractive "HD ELITE" fibre plan for Pune with 50 Mbps up to 50 GB per month for Rs. 2549 for 3 months (less than Rs. 1000/- per month), http://www.hathway.com/Broadband/HomeBroadband. I would not be surprised if this fibre fixed line plan would give you a consistent speed band between, say, 30 to 40 Mbps. You had mentioned that one reading you got from your Airtel mobile broadband was 27 Mbps but that the service itself goes down at times [see https://ravisiyer.wordpress.com/2017/06/06/mobile-4g-speeds-plans-and-dongleh otspot-devices-in-india-3g-speeds-bsnl-landline-broadband-plan-speed/] . Your Airtel monthly charges of Rs. 2000 for 30 GB compares poorly with the above Hathway plan.

I should also mention that the govt. of India TRAI speed information site, http://www.myspeed.trai.gov.in/, gives a DL speed figure of 8.11 Mbps for Airtel in Pune. Perhaps if you test your Airtel connection on working day evenings between 6 PM to 8 PM when the load seems to be typically high, you will get a different speed from the 27 Mbps you got earlier.

Noted that BSNL broadband gives only 1 to 2 Mbps average speed in your area (even for its 'up to' 8 Mbps speed plan) with the BSNL people saying that the speed depends on the local exchange. That is UNACCEPTABLE SERVICE from BSNL for any central part of a major city like Pune. I tried looking up BSNL Maharashtra/Pune for the plans. I landed up here: http://www.bsnl.in/opencms/bsnl/BSNL/services/broadband/BB _plans _high _speed.html. The around 1000 Rs. plans are 4 Mbps plans. Perhaps the 1-2 Mpbs actual speed you mentioned may have been for one of the 4 Mbps plan. The minimum price for an 8 Mbps plan in BSNL Maharashtra (servicing Pune) seems to be 1441 (+ tax) ('up to' 8 Mbps till 40 GB).

Moving on to other parts of your mail, I think the point you raised about average speed vs. maximum promised speed is very important in the Indian context. There are a couple nuances here, as I see it based on my experience in Puttaparthi.

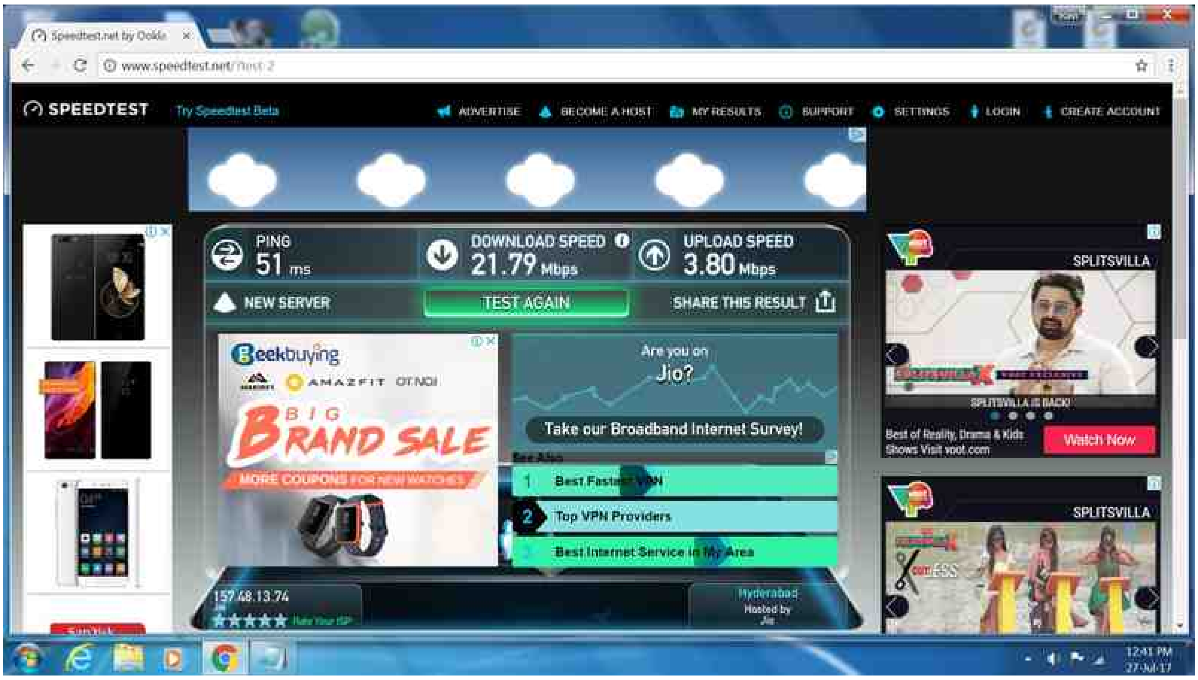
The first nuance is that fixed line (landline) broadband service providers advertise specific 'up to' (peak download) speeds like the ’up to’ 8 Mbps speed that I had been using with my BSNL landline service from a few years back till last month priced at Rs. 999 + tax (though it dropped by Rs. 200 one or two months ago). They have different plans with different prices based partly on speed (and partly on FUP Data usage limit). Towards the end of last month, after I decided to make Jio mobile Internet my primary broadband service provider, I switched to a cheaper BSNL broadband plan (Rs. 470 + tax) with the claimed ’up to’ speed of 2 Mbps (till FUP data usage limit of 10 GB). Note that the copper wire/data pipe is the same and has the capacity for higher speeds but that’s the way BSNL (and most, if not all, other fixed line broadband providers in India) segments its customers, for business purposes.

My experience with peak speed for the ’up to’ 8 Mbps BSNL broadband plan I had was around 6.5 Mbps as the peak speed measured by Ookla, fast.com and/or att speedtest.

In contrast, from whatever I have seen of 4G LTE Mobile Internet broadband service provider plans in India - I have seen mainly Reliance Jio and Airtel plans but also had a quick look at Idea plans, if I recall correctly - they do NOT advertise/claim an ’up to’ speed in their various plan offerings. Neither are their plans differentiated on ’up to’ speed like landline broadband service providers. Now there is the max. technology supported speed - I think the official 4G technology standard sets 100 Mbps as the peak speed for high-mobility communication (trains & cars) and 1 Gbps for low-mobility communication (stationary and pedestrians). But that’s just a standard and neither Jio nor Airtel claim to provide peak speed of 100 Mbps on any of their plans, as of now. Note that they use the term 4G LTE (Long Term Evolution) which seems to be a way of saying that they are shooting for 4G standard but they are not there yet - but I am not sure of that. What I am quite sure about is that a 4G label for a mobile Internet service does not mean a claim of delivery of ’peak’ 100 Mbps speed for high-mobility (e.g. trains and cars) and 1 Gbps for low-mobility (e.g. pedestrians and stationary) service in India (and USA and elsewhere too, I guess). In contrast, the fixed line ’up to’/peak speeds mentioned in their plans are claims of the service providers.

This lack of clarity about mobile Internet broadband service actual/delivered speed (or speed range) makes it rather problematic for an Indian customer considering to buy these 4G LTE plans. It becomes a buy and try affair which is one of the reasons why I spent a lot of time blogging on my ’buy and try’ experience with Reliance Jio as that might help others to make informed decisions.

My experience with peak (download) speed, as measured by fast.com, Ookla and/or att speedtest, of Reliance Jio at my home flat in Puttaparthi is around 16 Mbps typically at late night/early morning like between 1 AM and 3 AM. Note that I am excluding rare spikes with a max of 21.70 Mbps - have attached a pic of that below. I am excluding them as it was really rare - once or twice. In contrast, I did get around 16 Mbps speed around five to ten times, I think.



One must not forget that Mobile Internet speed including that of 4G LTE of Jio is dependent on signal strength (mine shows as excellent rarely and good typically but sometimes drops to fair in the property sheet which shows up on click on Windows 7 taskbar icon for the mobile Internet connection and mouse hover over Connection status). Perhaps if one measures Jio speed in Puttaparthi where the signal strength is the best - all five bars of the measure-graph are white - it would be higher. Another Puttaparthi resident using Jio Net around the time I did, using the same/similar model of the USB unlocked dongle that I am using - got a peak speed of 32.72 Mbps. I have given a pic of that below. I just noted that this pic shows ALL 5 BARS of the Mobile Internet connection icon as white indicating best signal strength (of Jio mobile Internet, I presume), whereas my measure-pic of 21.70 Mbps shows 4 out of the 5 BARS as white indicating one notch lesser than best signal strength! So the location from where he did the test seems to have the best signal strength whereas mine has reasonable signal strength. So he, I think, will get better Internet speeds with Jio than I.

The second nuance is the consistency band, so to speak, of broadband speed. My experience with BSNL fixed line broadband has been that it has a very good consistency band. With my ’up to’ 8 Mbps plan, I used to consistently get between 5.5 Mbps and 6.5 Mbps speed. This was very satisfying. This CONSISTENTLY good speed range/band made youtube viewing usually a seamless and happy experience without having to wait for buffering in most cases. Even live streaming from youtube channels like New York Times or PBS (USA) was typically without any buffering! The video being played on full screen on my 21.5 inch TFT/LCD monitor allowed me to very comfortably and in quite detail, follow USA political events from the comfort of my home (small apartment flat) in a rural/semi-urban town in an economically backward district, Anantapur, of India! I mean, I have followed the USA 2016 presidential campaign including the Republican and Democratic national conventions and the election day results, important USA Congress events etc. EITHER live sitting in Puttaparthi OR if I was busy to watch it live, I would watch it the next day. I am talking of watching 1 to 2 to 3 hour videos sometimes at a stretch, sometimes with a break.

And then I have watched so many documentaries, spiritual discourses, movies, pop and spiritual song-videos etc. on youtube which have GREATLY ENHANCED my learning and understanding of life and, many times, given me lots of pleasure too. All of this was made possible by my ’up to’ 8 Mbps BSNL landline broadband plan giving 5.5 to 6.5 Mbps speed CONSISTENTLY. Note that I was able to do this sort of video watching on a regular basis from around mid-2012 after I parted ways with the ashram university that I was associated with in Puttaparthi, and decided to lead a home-based individual life. In these five years or so, it is BSNL Landline broadband that has made all this Internet experience enriching my life possible. I am deeply grateful to BSNL and to Indian and Andhra Pradesh govt. which own & operate BSNL at a top-level, for the same and am therefore very reluctant to disconnect my BSNL broadband line even though its charges are too expensive now with Jio 4G Mobile disrupting the economics of Puttaparthi broadband service. I mean, a few months down the line, BSNL could make their broadband plans competitive with JioFiber by raising their ’up to’ speeds to say 16 Mbps (on Copper wire), FUP data limit to 100 GB and drop the price to Rs. 500 per month. Then I would consider switching to that BSNL plan, making it my primary Internet service provider, and use Jio Mobile Internet as a backup service. I think around Rs. 500 per month (+ tax) is a fair price that I am willing pay for CONSISTENTLY FAST Internet with a reasonable data usage limit like 50 to 100 GB.

I have been over a week now with my currently backup/secondary Internet service provider BSNL landline broadband plan of ’up to’ 2 Mbps till 10 GB data (and 1 Mbps after 10 GB) for Rs. 470 + tax per month. This too is proving to be in a strong speed consistency band. To my surprise, the band is between 1.5 and 2.5 Mbps (before 10 GB data limit is crossed) as reported by fast.com, Ookla and/or att speedtest. I had expected to get 1 - 2 Mbps speed range.

In contrast, the Jio 4G Mobile speed varies dramatically during the day (and night). The equivalent ’consistency band’ is from 2 to 16 Mbps with lower range speeds being common during evenings and higher range speeds being seen during late nights and early mornings. From a reliable and consistent high speed Internet point of view, in Puttaparthi based on my experience, BSNL landline broadband is far superior to Jio 4G Mobile Internet.

Now one might derive an average speed from the band of 2 to 16 Mbps speeds that I get from my Jio Net connection. Mathematically it would be accurate to call it an average speed. But when viewed from how it will be interpreted by users, I think there is a grave possibility of users being misled by an average speed mention of say, 5.5 Mbps of Jio, WITHOUT MENTIONING the wide variance of speed during the day and night.

Before I conclude, I should also mention that I have focused on Download speeds and ignored Upload speeds. But I could easily note that the Upload speed of Jio Mobile 4G Internet is far superior to the poor upload speed of even the ’up to’ 8 Mbps download speed BSNL landline broadband plan that I used for so many years. So for those who have regular uploads of big files e.g. videos, Jio (and perhaps other) mobile Internet broadband providers may be a significantly better choice.

I noted your interest in knowing my experience with Jio over the coming months in terms of reliability and average speed. Will bear it in mind. Though I think I may not be spending much time on such measures in an organized way with records to back up my statements. It will be more of a quick speed check now and then WITHOUT a record/log (as that eats up time).

To conclude, I would like to say that in Puttaparthi, fixed line broadband, as one would expect, offers superior reliability and consistency but is priced too high. Mobile Internet broadband (besides Jio, Airtel is said to be an important player in Puttaparthi now in this space), in Puttaparthi, offers speeds that are good enough for youtube viewing without much need for buffering, and while the speeds vary a lot during the day and night, the speeds do touch 16 Mbps which is more than two times the highest speed of around 6.5 Mbps that I got for the best speed ’up to’ 8 Mbps fixed line broadband plan in Puttaparthi.

P.S. Here's an interesting USA based article, How Fast Are 4G and 3G Internet Speeds?, https://www.lifewire.com/how-fast-are-4g-and-3g-internet-speeds-3974470, 13th June 2017.

It quotes a study giving top 4G LTE speeds for major vendors in USA.
1) AT &T: Avg. DL speed of 18.6 Mbps, max speed - 19.6 Mbps
2) Verizon: Avg. DL speed of 14.3 Mbps, max speed - 49.3 Mbps
3) Sprint: Avg. DL speed of 10.3 Mbps, max speed - 32.7 Mbps

To compare with India, here's the TRAI speed tracker site, http://www.myspeed.trai.gov.in/, listing the following Average DOWNLOAD speeds for all over India, today (8th Aug. 2017), for 4G operators:
1) Jio - 18.8 Mbps
2) Vodafone - 12.4 Mbps
3) Idea - 11.0 Mbps
4) Airtel - 9.0 Mbps
—–

The Pune based Indian correspondent responded (slightly edited):
Thanks for your very informative message. Yes, Airtel is not the ideal service provider but at my location I do not have any other choice except BSNL. To me, Jio is an unknown and I will wait to see what experience other people get in this area.

By the way, the Airtel service has now been down for three days (from Sunday morning)!
—–

I (Ravi) wrote (slightly edited):
Sad to know that your Airtel (mobile Internet broadband) service is down for three days since Sunday! That sort-of downtime is too long. Your alternate mobile service provider (Vodafone, if I recall correctly) would have come to your rescue. Hmm. Lets hope Hathway or You broadband reaches your lane in Koregaon Park quickly and provides much more regular service than Airtel.

So far I have not faced ANY downtime from Jio in Puttaparthi - maybe it was down at some times when I was not using the service and so did not note it. BSNL broadband over the past few years has become more reliable and goes down once in, say six months, but is usually back up within a day or so. However, I can't recall BSNL broadband being down this year so far! Even in the rains the landline has worked decently and provided decent broadband service!

I do earnestly wish that you quickly get a more reliable and regular broadband service that is cost-competitive.
—–

[I thank ndtv.com, trak.in, livemint.com and firstpost.com, and have presumed that they will not have any objections to me sharing the above small extracts from and references to their website on this post which is freely viewable by all, and does not have any financial profit motive whatsoever.]

Q&A about how I bought & set up my Reliance Jio 4G mobile Internet connection in Puttaparthi for use with my desktop PC (2017-08-09 18:37)

A Pune based Indian correspondent - same person whose correspondence with me is shared in my recent post: "Are JioFiber offers/rumours for real? 100 Mbps speed for 100 GB data for Rs. 500 per month! Comparison with other vendor plans in India", goo.gl/GwypHG - wrote the following (over email; slightly edited). I have given my answers below (slightly edited), within his questions:

Dear Ravi

Some questions:

Q 1. Did you check the Jio speed at your location before deciding to switch to this service? How does one check this without making a commitment? (No one I know seems to have a Jio connection in this area.)

Ravi Answer: As I had got reports of decent Jio 4G speed not only in Puttaparthi but in nearby places from two trusted sources, I was confident that my speed with Jio would be reasonable.

Now I had bought an unlocked USB dongle (which I should be able to use with any 3G/4G mobile Internet service provider SIM including BSNL 3G service of Puttaparthi). That essentially was a generic mobile Internet device purchase not limited to Jio.

So I thought my initial Jio trial expenses would be only the Jio SIM expense of around Rs. 100 and the cheapest Jio connection plan (Rs. 19/- for 1 day, http://www.jio.com/en-in/4g-plans). So I felt I need not go to the extent of asking my friend who has a dual SIM smartphone with one SIM being Jio, to come to my home for testing Jio speed in my home. I mean, I thought that worst case, I would only have made a bad investment of slightly more than Rs. 100, and I could still use the Jio SIM for any future 4G phone I bought.

I think I should also mention that I was told that official sellers/distributors for Airtel and so for Jio too, I guess, are willing to make a visit to a buyer’s location to check out signal reception quality. But they may want you to buy their company - Airtel/Jio (LOCKED) device (and NOT UNLOCKED device of other vendors).

Q 2. What sort of device do you use for your broadband at home? Does Jio provide one (or recommend one)?

Ravi Answer: I got a (used) UNLOCKED Huawei 3G/4G USB dongle through a computer seller/servicing person in Puttaparthi (named Sunny Sehgal, originally from Delhi). He is quite knowledgeable in such stuff and procured it for me using Amazon India or some other such site. He assured me the support for it and so I decided to go for it.

The Model of the dongle is E3276s-920. The official Huawei page for this model seems to be: http://consumer.huawei.com/in/support/mobile-broadband/dongles/e3276s-in-sup. htm.

This Amazon India link for "Huawei E3276 4G 3G Data Card Modem Speed 100mbps", http://www.amazon.in/Huawei-E3276-Modem-Speed-100mbps/dp/B00NGFO1JC, is either the page from where my dongle was bought or similar to it. If I recall correctly, I paid around Rs. 2000/- for it.

Here's a more descriptive link about its features: http://www.geekbuying.com/item/Unlocked-Huawei-E3276-E3276s-920-150Mbps-4G-LTE- TDD-Wireless-Modem-3G-HSPA—WCDMA-UMTS-SIM-Card-USB-Wifi-Dongle-337631.html.

About Jio devices: Yes, Jio not only provides the devices but recommends that you use them. Note that you cannot use the Jio provided devices with other vendors like Airtel or Vodafone (as it is LOCKED). Earlier when I was viewing Jio website, if I recall correctly, it showed a WiFi device and a USB dongle device which could be used for Internet access to computer (and other devices like smart phones, in case of WiFi device). Now I can see only the WiFi device on its website. Here's the page: https://www.jio.com/shop/en-in/jiofi/p/491193576. Its price is around 2000. I don't know what the bundled voice+data of Rs. 1999/- worth, exactly means.

Q 3. What commitment did you have to give to Jio on signing up? That is, three months, or advance payment, or whatever.

Ravi Answer: As I had an unlocked dongle which was not from Jio, the official Jio shop in Puttaparthi was not able to provide me the SIM. He directed me to another general mobile servicing & sales store in Puttaparthi.

There I got a package offer of around Rs. 550/- (or was it Rs. 500?) for the SIM and a Rs. 390 plan for 84 days 4G data speed till 1 GB/day. I had to provide my Aadhar number and provide my fingerprint on a small device they had to use the fingerprint for Aadhar verification. The shop service person also asked/confirmed my BSNL mobile number which got linked to Jio as I later got an SMS welcome message from Jio on it. Once these steps went through, the main formalities were over. I did not have to fill up or sign any paper form! That was a pleasant surprise.

The Jio mobile telephone number was written (not printed) on the package cover and the shop service person had also told me the number. She had already put the SIM card into my USB dongle which I had taken with me - she needed some slight guidance from me on that (I had read the details about the USB dongle from the above mentioned websites, including how to insert the SIM into the dongle). The main shopkeeper (probably her husband) who is reputed to be the very knowledgeable about mobiles guy, was not present in the shop then. [I was very happy to see the young lady do a pretty good job for my purchase and setup. I mean, it seems to be a young mom-and-pop kind of small mobile service shop run by a young local Andhra family. A young girl child was also in the shop then, playing around, and may be their daughter. Great to see this ability to adapt to & adopt new technology and make a living from selling and servicing it, from some young people of rural/semi-urban India. The lady did not seem to speak English but that did not come in the way of her doing an effective sales and setup task for me.]

After coming home I connected the USB dongle to the computer, had to go through an installation of an application that I was prompted to (seems to be on ROM on the dongle), and set jionet as the provider in some configuration property sheet (for which I was guided by Sunny Sehgal). Barring one issue I had due to some wrong configuration setting I made, that was it. I was onto Reliance Jio mobile Internet and could browse the Internet with it!

Registering with Jio portal to get usage and other info. was a straight forward affair.

So my total expenses for getting onto Jio were Rs. 2000 for the USB dongle for generic mobile 3G/4G Internet connectivity (not Jio 4G alone), and Rs. 550 (or Rs. 500) for SIM + 84 days 1 GB/day plan, i.e. a total cost of Rs. 2550 (or Rs. 2500).

Hope that helps.
——-
Ravi added: One other query that I recall I had was:

Q 4. How many SIM cards can we buy (officially in India)?

Ravi answer: Earlier on, I was given the impression that we were limited to two SIM cards (by Indian govt.) But the shop service person where I got the Jio SIM package told me that we can officially get 9 SIM cards (now). Don't know how valid that info. is.
————–

Pune correspondent wrote (slightly edited):

Most helpful comments! Just the information I needed which no vendor will provide.

The nearest Jio vendor says Jio broadband is not yet available in Pune. I must find out if he means a wired link or a 4G connection.
—–

Ravi responded:

Glad to have been of some help.

[Referring to Jio vendor comments:] Oh I see! Do keep me updated on this as and when you get more info. Today's The Hindu has an interview of Tim Cook of Apple, "Apple poised for big steps in India: Tim Cook", http://www.thehindu.com/sci-tech/technology/apple-poised-for-big-steps-in-india-tim-cook/article19452491.ece, where Tim Cook says, "Add to this how Reliance Jio has got their network up and running faster than any other carrier in the history of the world."
So even Cook knows about the Jio impact on Indian 4G Internet sector. It would be pretty strange if some central parts of Pune are not being serviced by Jio 4G.
—-

1.5 September

Pune based correspondent tries out Jio 4G Mobile Internet; gets 25 Mbps speed, and is happy with it so far (2017-09-01 18:49)

A Pune based Indian correspondent (PIC) – same person whose correspondence with me is shared in my 9th Aug. 2017 post: "Q &A about how I bought & set up my Reliance Jio 4G mobile Internet connection in Puttaparthi for use with my desktop PC", https://goo.gl/ypMGG8 – wrote the following over email (slightly edited) on 15th Aug. 2017:

I am probably going the Jio 4G route. Someone will come tomorrow to check the reception in our flat [Ravi: in Koregaon Park area of Pune]. If it's OK, then I will go for their dongle/router offer: Rs.2000 for six months at 1GB a day, or four months at 2GB a day. No other charges for that period.

Based on my experience, I will decide about dumping the slow 3G Vodafone dongle that I currently use as backup, and indeed the Airtel 4G router that is my primary connection.

Thanks for telling me about your experience with Jio. It gave me the courage to venture into trying another service provider!
—

I (Ravi) responded:
Interesting! All the best.
—-

PIC wrote (on 19th Aug. 2017):
After 5 days of badgering people in the nearby Jio shop, I persuaded one of them to come to my house yesterday and check the 4G reception there. It is very good.

So I signed up for their 4 month 2GB a day deal for Rs.1999 and have started using their dongle. It gives me about 25Mbps [Ravi: must be download speed], which is as good as the best Airtel provided to me. Airtel 4G here is in bad shape now, breaks down often and provides a very patchy service. They admit this and say they will be going for a major upgrade but are not willing to commit when this will be.

I was very pleased to see the packaging of the Jio dongle: it matches Apple quality in design. The only drawback is that the device needs to be recharged every 6-7 hours. They do not have a wireless router with a plug-in power supply.

I asked at the local shop where I get my cellphones from whether they could unlock my Airtel WiFi router so that I can use my Jio 4G SIM in it. They said they cannot do this and do not know anyone else who can!

I am curious about how you have put the Jio SIM into a third party WiFi router. Which make is it?

The people in the Jio shop told me that if I remove the SIM from their device, the 4 month offer stands cancelled. So I will have to wait for that period to be over before doing anything. But I would like to see what possibilities there are for the future.
—-

I (Ravi) responded:

[About the 25 Mbps [download] speed for Jio 4G Internet connection in his Koregaon park, Pune flat and reasonable deal for the [WiFi, I guess] Jio router (& SIM, I guess):] Very happy to hear that.
...
[About my Jio 4G Internet access device:] In my case it is a USB dongle and NOT a WiFi router. It is a Huawei 3G/4G USB dongle [More on it including some links can be seen on my post here: https://goo.gl/ypMGG8].
...

I am quite sure the market would have UNLOCKED WiFi hotspots that work with any Indian SIM card. Looked up Google for it. Here’s one link on amazon.in that may be of interest: http://www.amazon.in/Airtel-Hotspot-Unlocked-Network-Securitronics/dp/B01C1HJF1 4.
—-

PIC wrote:
Thanks for the pointer to the unlocked Airtel router.

I think I should festina lente (Latin for ’hasten slowly!’).
—-

I (Ravi) responded:
:-). Learnt some new Latin today, thanks to you, –name-snipped–! Might help me when I am reading up on Pope Francis and Roman Catholic Church documents.
—-

I (Ravi) wrote to PIC on 29th Aug. 2017 (about 10 days after our above mail exchange):
How is your Jio 4G Internet connection? Did you find it satisfactory over the past few days, since you started on it?
—-

PIC responded:
I still try and use my Airtel 4G WiFi router as my primary connection with the internet. It seems to work during the early morning and night, though not every day or even at those times. I switch to Reliance Jio 4G when Airtel does not work.

The Jio 4G has not let me down even once so far. It gives me a good connection whenever I require it. One minor snag is that the Jio dongle needs to be charged every 6-7 hours (unlike the Airtel router which is a plug-in device). Fortunately, you can continue to use the dongle even when it is charging.

I complained to the Airtel CEO and in response someone rang me up and asked what problems I was facing. She had not even bothered to read my letter where I list the problems! Needless to say, nothing further has happened.

I think nothing further will happen for about four months, at which time I can remove the Reliance SIM from their dongle and put it in another device. The man in the shop had warned me not to do that before four months or my Rs.2000 deal would be off. (How they would know if I did move the SIM I do not know.)

Amazon sells WiFi routers exactly like the Airtel router I have been using. They claim that it will work with any 4G SIM. I may switch to one of those since no-one here seems to know how to unlock the Airtel router.
—-

How to get precise 4G signal strength - RSSI - for Huawei USB 4G dongle for Windows PC? (2017-09-06 12:18)

Windows OS gives a measure of the 4G signal strength for a connected USB 4G dongle as a Taskbar icon with number of white bars out of a max. of 5 bars indicating the strength. All 5 bars being white is max. strength. The measure shown in other Windows OS property sheets/displays related to this is a similar x out of 5 bars indicator, with the color sometimes being green instead of white.

There is a more precise measure of this strength called Received Signal Strength Indicator (RSSI).

https://www.speedguide.net/faq/how-does-rssi-dbm-relate-to-signal-quality-perce nt-439 states:

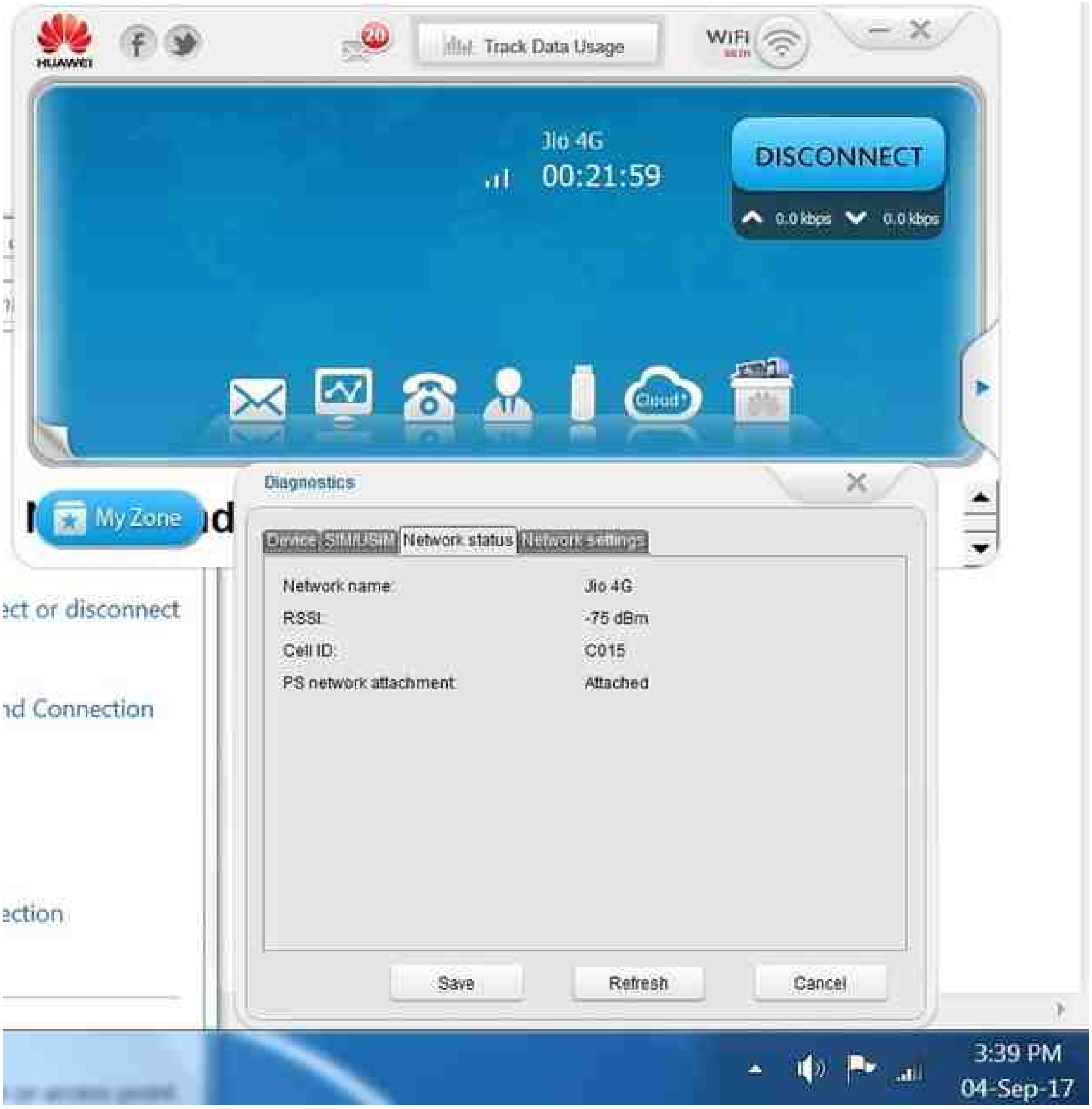
RSSI is usually expressed in decibels from 0 (zero) to -120db and the closer it is to zero, the stronger the signal is.
...

For example:
High quality: 90 % = -55db
Medium quality: 50 % = -75db
Low quality: 30 % = -85db
Unusable quality: 8 % = -96db
— end short extract from speedguide.net —

But how can one get the RSSI value for Huawei 4G USB dongle connection? I use Huawei E3276s-920 3G/4G Unlocked Dongle. As part of its setup, an application called Mobile Partner gets installed which can be used to connect to 4G service provider (in my case, Jio).

To check signal strength in Huawei Mobile Partner Application make the following menu choices:
Settings -> Operation -> Diagnostics -> Tab Network Status: RSSI

The above field gives the received strength of the signal in Decibels. Please see pic below showing the property sheet displaying the RSSI (as -75 dBm). The pic also shows the Windows OS taskbar icon (4G) signal strength indicator (as 3 white bars out of 5).



Network name: Jio 4G
RSSI: -75 dBm
Cell ID: C015
PS network attachment: Attached

[I thank speedguide.net and have presumed that they will not have any objections to me sharing the short extract from their websites on this post which is freely viewable by all, and does not have any financial profit motive whatsoever.]

How improved 4G signal strength helps usually to improve 4G Internet connection speed (2017-09-06 12:41)

I conducted a few tests yesterday (5th Sept. 2017) afternoon using my Dell Mini Laptop and a Huawei 4G USB dongle model: E3276s-920 (supposed to work with 3G too). The 4G service provider is Jio. My desktop PC location inside my bedroom is about 18 to 20 feet away from my balcony/sit-out window.

Further there is a bedroom to balcony wooden door in between that is usually closed. I conducted the tests with my Mini Laptop at my desktop PC (monitor) table, then on a chair in my balcony and then on the window sill of my balcony. Given below are the results.

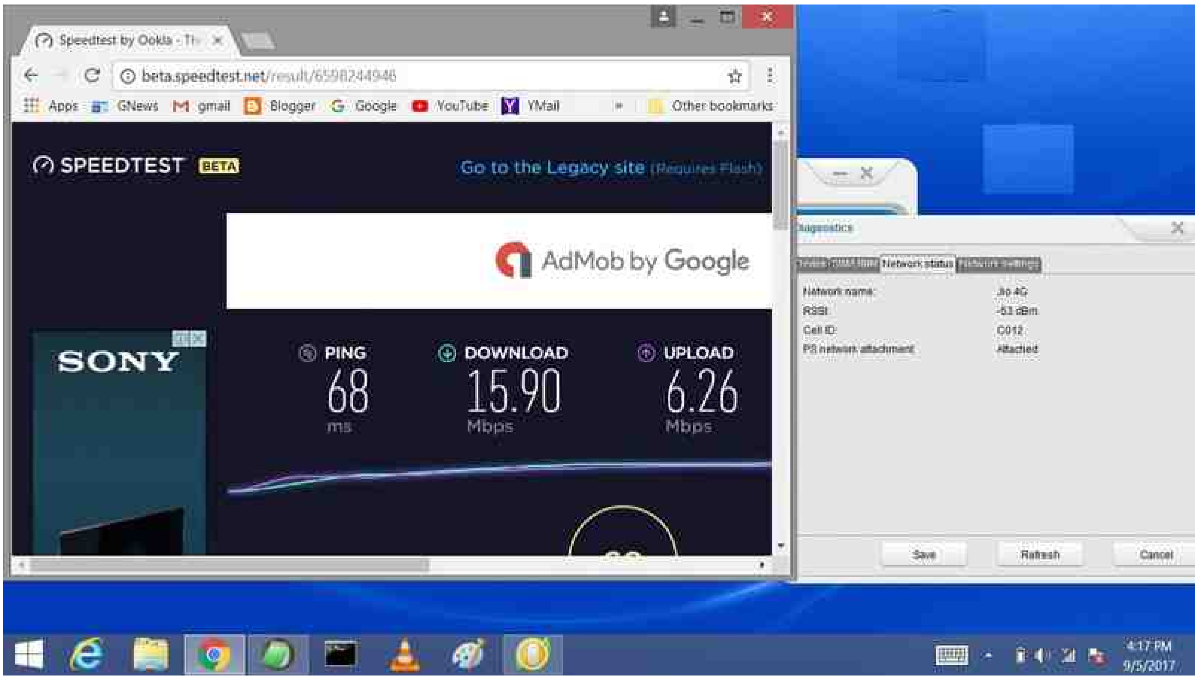
A) Inside bedroom next to desktop PC
RSSI reading at 3:38 PM (5th Sept. 2017) -74 dBm with task bar icon showing 5 out of 5 bars (lit/white) which is the best value for that indicator.
[I think for all the tests below the task bar icon is showing 5 (lit/white) bars out of 5.]

) 7.4 Mbps, 3:41 PM, fast.com
) 11 Mbps, 3:42 PM, fast.com, -69 dBm
) 4.53 Mbps, 3:45 PM, beta.speedtest.net, -72 dBm [http://beta.speedtest.net/result/6598182639]
) 3.24 Mbps, 3:47 PM, beta.speedtest.net, -71 dBm
) 4.0 Mbps, 3:49 PM, fast.com, -72 dBm
——————————————————————————-

B) 3:52 PM: Moved to balcony
Seated in chair on balcony, so height wise the dongle is one feet or so below open window level but has angular open air line of access to outside window area
[I think for all the tests below the task bar icon is showing 5 (lit/white) bars out of 5.]

) 14 Mbps, 3:56 PM, fast.com, -66dBm
) 9.9 Mbps, 3:57 PM, fast.com, -64dBm
) 15.68 Mbps, 4:00 PM, beta.speedtest.net, -69 dBm [http://beta.speedtest.net/result/6598211398]
) 9.79 Mbps, 4:02 PM, beta.speedtest.net, -63 dBm [http://beta.speedtest.net/result/6598215907]
——————————————————————————-

C) Mini Laptop placed on open window sill thereby giving best access to USB Dongle to outside window area
) 14 Mbps, 4:07 PM, fast.com, -50dBm
) 12 Mbps, 4:09 PM, fast.com, -58dBm
) 7.22 Mbps, 4:12 PM, beta.speedtest.net, -56 dBm [http://beta.speedtest.net/result/6598237501]
) 15.9 Mbps, 4:16 PM, beta.speedtest.net, -53 dBm [http://beta.speedtest.net/result/6598244946]
Screenshot captured - see pic below. [Right-click on pic to open in new tab/window which can then be easily magnified (zoomed in) using browser commands.]



Network status

Network name: Jio 4G
RSSI: -53 dBm
Cell ID: C012
PS network attachment: Attached

————————————————————————————-
— end test data —

A quick analysis of the above data tells us that better 4G signal quality does not always mean improved 4G Internet connection speed. However, typically if the 4G signal quality is better then the Internet connection speed is better.

The typical speed in the above tests conducted around 4 PM can roughly be said to be as follows:
A) In bedroom next to desktop PC monitor
Around 4 Mbps with the typical RSSI being around -70dBm

B) In chair on balcony (with angular open air line of access for Dongle to outside window area)
Around 10 to 14 Mbps with RSSI around -65 dBm

C) On balcony window sill (with best exposure of Dongle to outside window area)
Around 12 to 15 Mbps with RSSI around -55 dBm

USB 4G Internet dongle in balcony connected to Laptop inside room using long (5m) USB cable improves speed significantly (2017-09-06 16:09)

Last updated on 7th Sept. 2017

My previous post, "How improved 4G signal strength helps usually to improve 4G Internet connection speed", https://goo.gl/xoMURw, showed that my Dell Mini-Laptop (ML) with Huawei USB 4G Dongle connected directly at one of its USB ports, got better quality 4G RSSI (Received Signal Strength Indicator) when it was kept in my balcony/sit-out as compared to when it was kept in my bedroom on my desktop PC monitor table. Further, this improved 4G signal strength led to improved 4G Internet connection speeds (on the Dell Mini-Laptop).

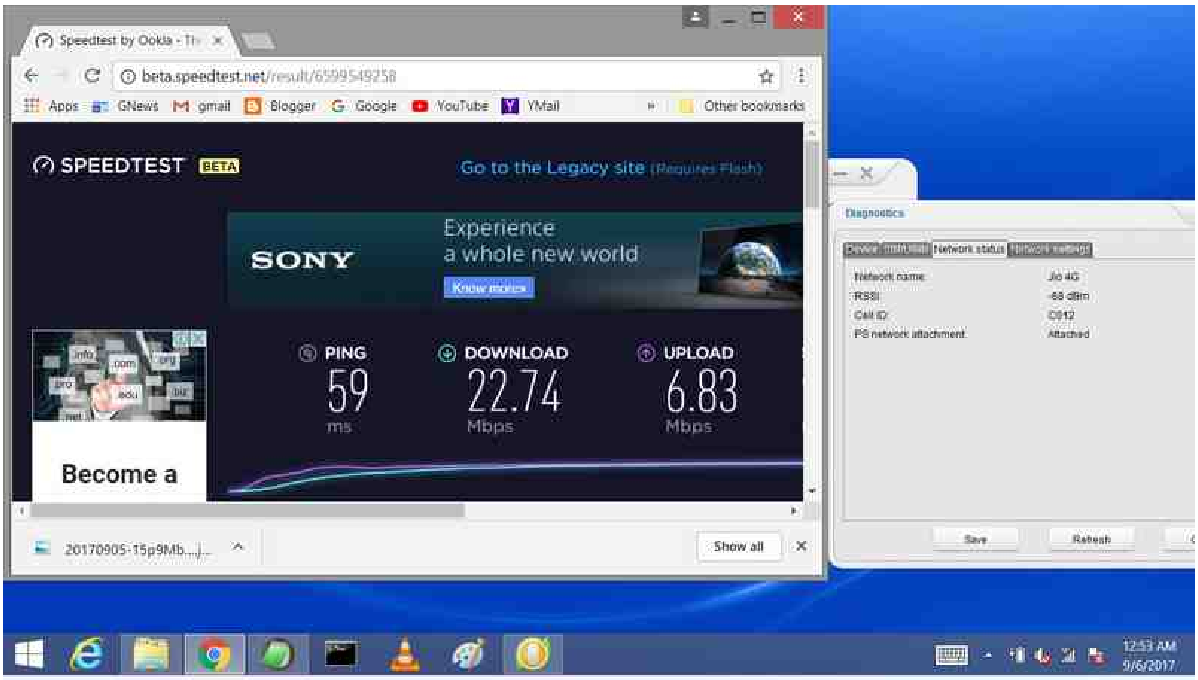
Convenience wise, an interesting arrangement was to have my ML in my bedroom on my desktop PC monitor table but with the Huawei 4G USB Dongle in my sit-out/balcony, and connected to my ML with a 5 meter long, thick and good quality USB cable. Today (6th Sept. 2017) early morning I conducted some tests with this or similar arrangement whose data is given below. Note that my 4G Internet service provider is Jio.

> Important Note for USB 2.0 users: My desktop PC uses an old (perhaps decade old) motherboard - ASUS M2NPV-VM - which has only USB 2.0 ports. Perhaps that is the reason why the Huawei 4G USB dongle does NOT get recognised properly as a USB device when it is connected via 5m long cable to USB ports on my desktop PC (I tried out multiple USB ports on both front and back side of my PC cabinet). So, as of now, I cannot use this 4G dongle in balcony connected via long USB cable to computer approach for my desktop PC with old motherboard. I plan to explore options like an extension card giving me USB 3.0 ports on my old mobo, thingies which boost power on the USB 2.0 cable connection etc. I should also mention that I have been using the 4G USB dongle with my desktop PC by directly plugging it on to its USB 2.0 ports, and have not faced significant problems with such usage.
>
> My Dell Mini-Laptop has USB 3.0 ports which may be the reason why I face no problem in 4G USB dongle being recognised properly and working properly when connected to the Mini-Laptop via a (thick and good quality) 5 m long USB cable.

A) ML in room next to PC monitor, 4G USB dongle on chair in balcony; angular linear access (for dongle) to outside window area; window insect-pane put up. Note that the last figure below e.g. -72 dBm, is the RSSI (Received Signal Strength Indicator) value.

)14 Mbps, 12:45 AM, fast.com, -72 dBm
) 20 Mbps, 12:46 AM, fast.com, -69 dBm
) 11.63 Mbps, 12:48 AM, beta.speedtest.net, -72 dBm [http://beta.speedtest.net/result/6599544604]
) 22.74 Mbps, 12:49 AM, beta.speedtest.net, -68 dBm [http://beta.speedtest.net/result/6599549258]
See pic given below.

[General Note: Right-click on pics to open in new tab/window which can then be easily magnified (zoomed in) using browser commands.]



PING 59 ms
DOWNLOAD 22.74 Mbps
UPLOAD 6.83 Mbps

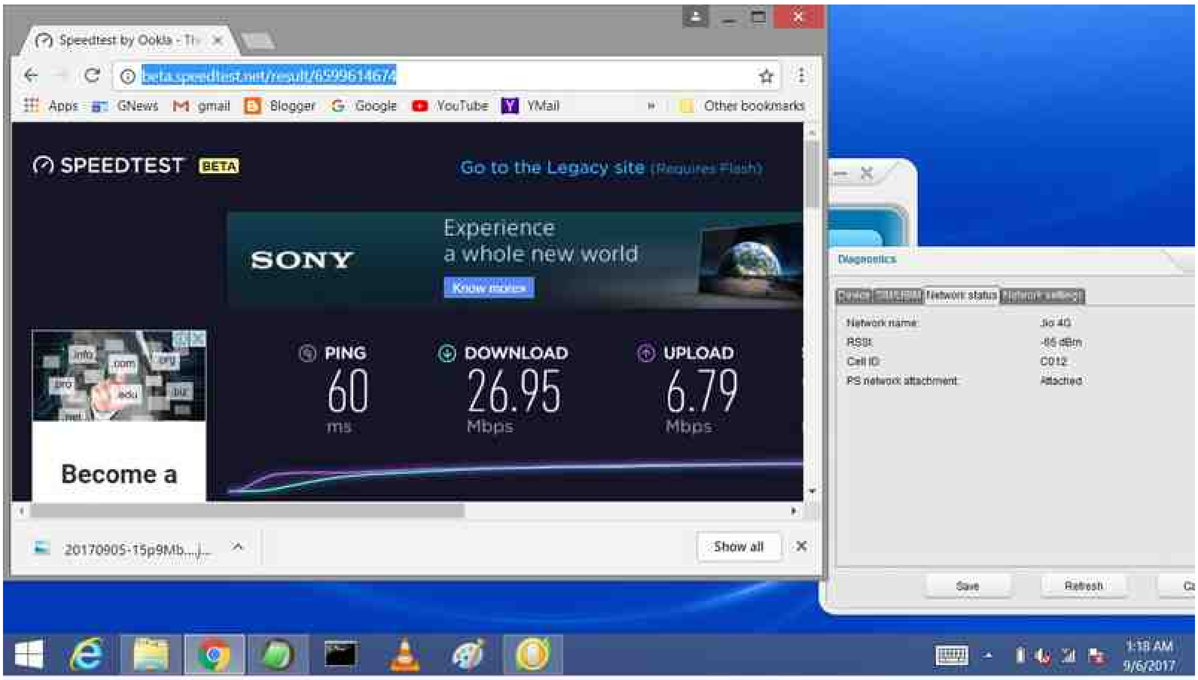
Network name: Jio 4G
RSSI: -68 dBm
Cell ID: C012
PS network attachment: Attached

[Data usage on disconnect reported as 24.10 MB UL + 105.17 MB DL]

[Connected two 5m USB cables together and put up USB 4G Dongle at the end. Dell Mini Laptop (Win8.1) did not recognize the device!! Back to single 5m USB cable with USB 4G dongle at the end.]

B) ML in room but closer to balcony; 4G USB Dongle next to insect screen (wire mesh) window 'pane' [Moved ML (Mini Laptop) to bed (so closer to balcony) and stuck up the USB dongle next to the insect screen (is a wire mesh allowing for air to pass through) window 'pane'. Note that ML on PC monitor table and 4G USB dongle next to insect screen window 'pane' will need 6 to 7 m long USB cable. Therefore I had to move the ML closer to the balcony.]

) 24 Mbps, 1:13 AM, fast.com, -71 dBm
) 24 Mbps, 1:14 AM, fast.com, -64 dBm
) 26.95 Mbps, 1:16 AM, beta.speedtest.net, -65 dBm [http://beta.speedtest.net/result/6599614674]; see pic below.



PING 60 ms

DOWNLOAD 26.95 Mbps

UPLOAD 6.79 Mbps

Network name: Jio 4G

RSSI: -65 dBm

Cell ID: C012

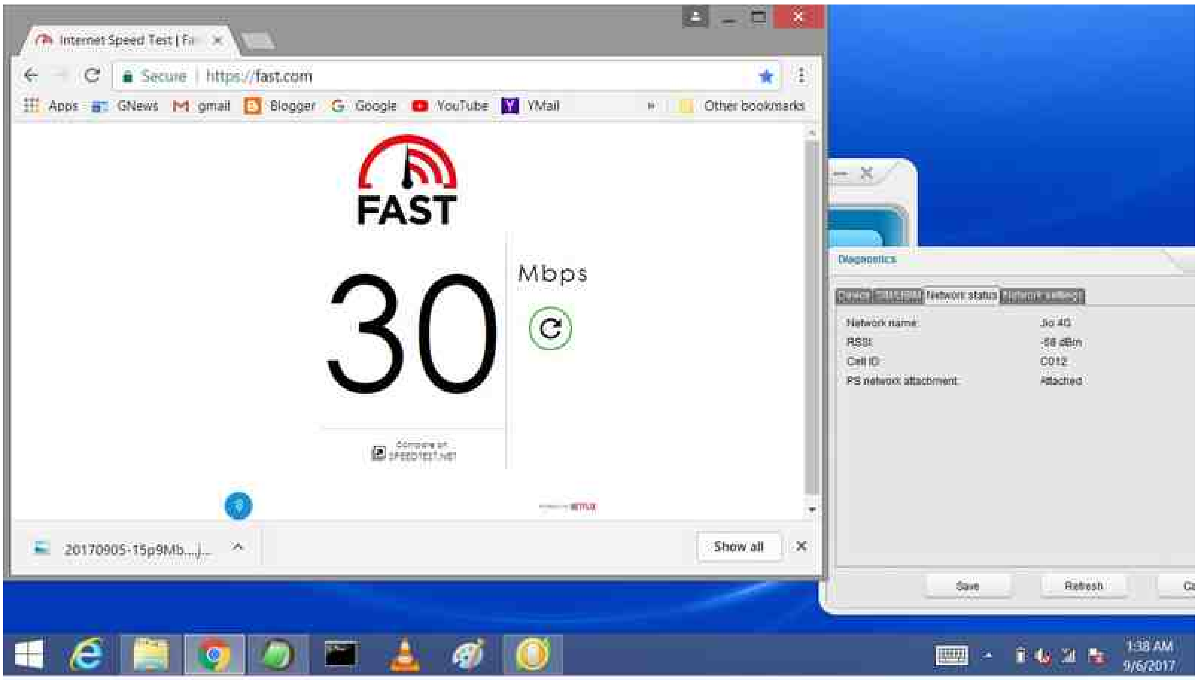
PS network attachment: Attached

) 24.13 Mbps, 1:21 AM, beta.speedtest.net, -70 dBm

I then took the ML and sat down on the chair in the balcony. Now I held the USB 4G dongle (connected to 5m USB cable) flush next to the insect net or close to it. I got RSSI readings of -70 to -64, if I recall correctly, and I got speed readings of around 23 Mbps. I did not do a proper record entry of them as I saw that the RSSI readings had not changed significantly from earlier. This is as expected as only the ML location had changed from bed in the room to chair in the balcony, but the 5m USB cable connection and the location of the 4G USB dongle was the same.

C) 4G USB dongle held few inches outside window, and connected to ML [Opened/slid out insect net window 'pane'. Held USB dongle outside open window (a few inches outside) at angle giving best RSSI. Note that as I was holding the 4G USB dongle outside the window I had the ML with me and I was seated on a chair in the balcony. If there was an additional person the ML could have been inside the room instead like in the above B) case (on the bed).]

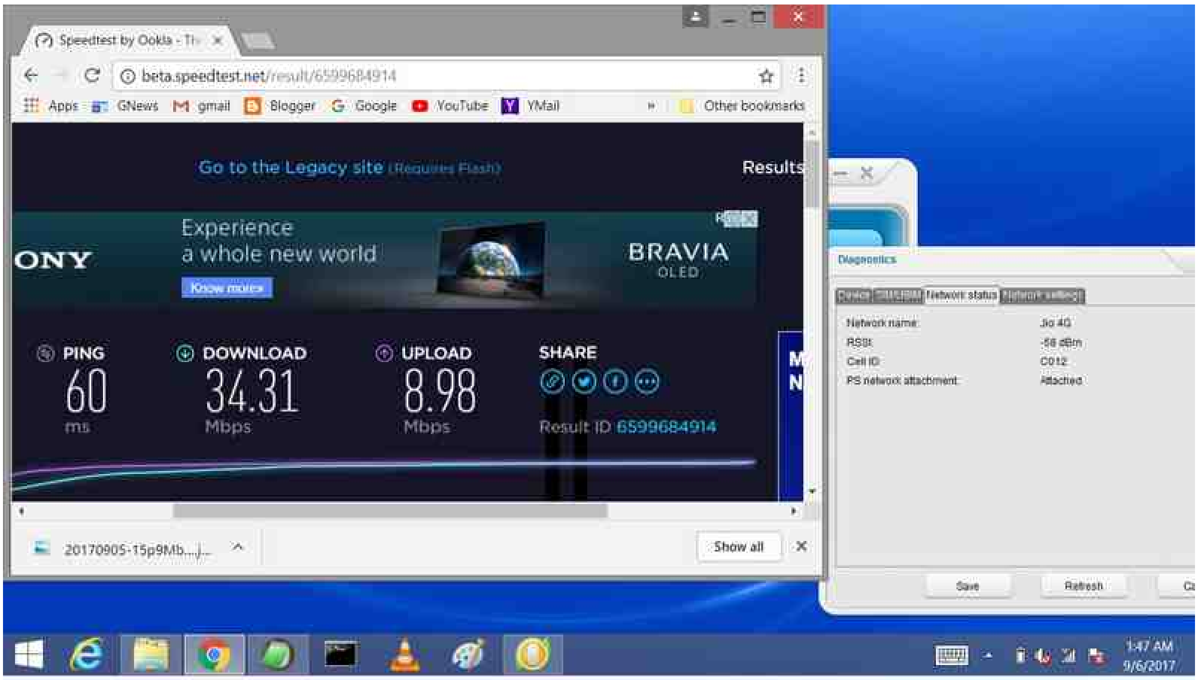
) 30 Mbps, 1:38 AM, fast.com, -58 dBm; See pic below.



30 Mbps

Network name: Jio 4G
RSSI: -58 dBm
Cell ID: C012
PS network attachment: Attached

*) 22 Mbps, 1:42 AM, fast.com, -57 dBm
) 34.31 Mbps, 1:46 AM, beta.speedtest.net, -58 dBm [http://beta.speedtest.net/result/6599684914]
See pic below.



PING 60 ms
DOWNLOAD 34.31 Mbps
UPLOAD 8.98 Mbps
Result ID 6599684914

Network name: Jio 4G
RSSI: -58 dBm
Cell ID: C012
PS network attachment: Attached

) 18.06 Mbps, 1:53 AM, beta.speedtest.net, -56 dBm

[Disconnected: Data usage message: UL: 69.19 MB, DL: 526.28 MB
I did quite a few tests to get some feel of the speed some of which I did not record above. So I think that may have contributed to the high data usage reported above for the tests conducted.]

D) Directly connected 4G USB Dongle to ML;

Removed the USB cable and directly connected USB 4G dongle to USB slot in ML. Then I kept the ML on the window sill while still holding it, exposing the USB dongle a few inches outside the window. This would have been like when I had held the USB dongle a few inches outside the window. Then I checked the RSSI values for various orientations of the ML and so the USB dongle. The values were typically in the -63 to -60 range though at times it did touch -58 (dBm). So the RSSI values did not seem to differ significantly whether the USB 4G dongle that was kept a few inches outside the window, was directly connected to ML or was connected via a 5m USB cable!!! That is a very interesting conclusion suggested by this single test - no significant loss even though there is a 5 m USB cable in between!

[On disconnect, Data usage reported: UL: 6.81 MB, DL: 198.64 MB. Note that I had sent out this note as email to myself attaching 4 screenshot pics. Also after coming back to the bedroom I had made a few tests to check out speed inside the bedroom with 4G dongle plugged directly into ML.]
— end test data —

Conclusions

1) Huawei 4G USB dongle when connected via thick and good quality, long USB cable of 5 metres to my Dell Mini-Laptop worked well. Keeping the USB dongle on a chair in my balcony/sit-out which is connected to my Mini Laptop on a work table in the room seems to be a good solution for convenient workplace and very good (from my needs perspective) Internet speed of around 10 Mbps or more in the daytime and around 20 Mbps or more at nighttime. Of course, as I get 3 to 4 Mbps speed in daytime inside my bedroom when the 4G USB dongle is directly connected to my Mini Laptop (WITHOUT the long USB cable), and that suffices for most of my needs, I would need to use the long USB cable arrangement only when I need around 10 Mbps or more speed.

2) Huawei 4G USB dongle when connected via thick and good quality, long USB cable of 5 metres to my Dell Mini-Laptop gave as good signal strength (RSSI) (and Internet speed though I have not done a specific test today morning to confirm this) as when the 4G dongle was directly connected to the Dell Mini-Laptop.

3) Best Internet speed (around 20 Mbps or more at daytime and 30 Mbps or more at nighttime) is available when the 4G USB dongle is kept a few inches outside my balcony window. While it is not appropriate to keep the dongle in that position for regular usage, it suggests that an antenna attached to the 4G USB dongle with the antenna mounted on, say the external wall outside my window, may be a good regular arrangement (configuration) for best Internet speed. However, as of now I do not have a need for such Internet speeds and therefore need not look at such a regular arrangement solution.

==

P.S. About antennas for 4G USB dongles, here's some info:

LTE speed tests using E3276 USB Modem and Poynting outdoor antennas (A-LPDA-0092) [in South Africa in 2013], https://www.youtube.com/watch?v=v6jcKx68-Lw, 3 min. 30 secs.

The above video shows speeds as follows:

) No antenna: 2.2 Mbps
) 1 antenna: 7.6 Mbps
) 2 antennas: 12 Mbps

Windows Update using Mobile Internet plan with 1GB/day 4G speed data limit in Puttaparthi (2017-09-12 16:10)

Recently a Facebook friend of mine, based in Puttaparthi (in Andhra Pradesh state of India), messaged me about problems she faced with her Airtel 4G plan with 1 GB/day 4G speed data limit, which she is using as the Internet connection for her laptop computer through an Airtel WiFi device. She was informed (or came to know) that she had exhausted her 1 GB data (at 4G speed) for the day without her having (consciously) used the Internet much on that day. One possibility that struck me regarding her issue was Automatic Windows Update having taken up most of her Internet data limit without her realizing it. Another possibility was that somebody else had got onto her wireless 4G Internet router/device by guessing or breaking (hacking) the password, and used her connection to download lot of data.

I suggested to her that she could try out disabling automatic Windows Update (and do manual Windows Update instead where she would be controlling when it is doing the download). That’s what I do.

Now I have moved to Jio 4G (mobile) Internet quite recently - around one and a half months ago. My current Jio plan gives 1 GB data per day at 4G speed; post 1 GB the speed drops to a poor, NOT-BROADBAND speed of 128 Kbps. Note that I have downgraded my BSNL landline broadband plan from ULD999 plan (8 Mbps for 25 GB per month; 1 Mbps beyond) to ULD470 plan (2 Mbps for 10 GB per month; 1 Mbps beyond). So, as of now, I have two (broadband) Internet connections.

I should also mention that both Jio and Airtel 4G services have other plans with higher limits of 4G data per day or with no limit at all. But the 1 GB/day plan is attractive from a cost point of view. Jio 4G has the Rs. 399 plan offering 1 GB data per day at 4G speed for 84 days. Theoretically, if one uses all of the 1 GB data every day for these 84 days then at the end of this 84 days period, one would have used 84 GB of 4G speed data. But practically, most people (including me) do not do that and so their total consumption of 4G speed data over these 84 days is less than 84 GB. For more about Jio 4G plans see https://www.jio.com/en-in/4g-plans.

Jio offers more expensive plans without any data limit per day - e.g. the Rs. 999 plan which offers 90 GB for 90 days. Note that in this plan, it seems that one can consume entire 90 GB data at 4G speed within one day OR consume varying amount of 4G speed data each day not limited to 1 GB or 2 GB as long as the total data consumed does not cross 90 GB and one is within the validity period of 90 days.

It seems that if in 90 days one does not consume 90 GB then the rest of the available data is lost. That is, it is not carried forward even if one buys another Rs. 999 plan.

If one exhausts 90 GB before the 90 days validity period one can continue to get "unlimited" data but at the poor NOT-BROADBAND speed of 128 Kbps. I am quite sure that one can also choose to buy another plan, say Rs. 999 plan again, to use Jio 4G speed data as soon as the 90 GB data is exhausted, and then switch to using that new plan instead of staying on the old plan with its poor speed of 128 Kbps. But I do not know how exactly one would do that.

Also, there are recharge plans of lesser amounts like Rs. 49/- for an additional 600 MB of 4G speed data than can be used when one crosses the 1 GB/day (or higher 2 GB/day) limit for 4G speed data in some Jio plans. However, these recharge plans are far more expensive per GB of 4G speed data than the regular Rs. 399 or even Rs. 999 plan.

Airtel and other vendors would be having similar such plans too.

The typical user though prefers the 1 GB/day 4G speed data limit plan as it is significantly more economical than the Rs. 999 plan (or equivalent from Airtel) without per day 4G speed data limits. This post focuses on how one manages to do Windows Update with such 1 GB/day 4G speed data limit economical plans of Jio, Airtel and other 4G service providers in Puttaparthi (and elsewhere in India). I have taken the example of Jio 4G which I use but I think most, if not all, of the general approach mentioned in this post would apply to other 4G service providers like Airtel too.

I had not yet done a Windows update using Jio 4G. My earlier Windows Update for both my (assembled) desktop and Dell mini-Laptop were done using the 8 Mbps till 25 GB BSNL landline broadband plan (which gave a real speed of around 6.5 Mbps that was a STEADY and RELIABLE speed till 25 GB limit was hit for the month).

Today (12th Sept. 2017) morning in my apartment flat in Puttaparthi, I did a Check for Updates, followed by download of its listed updates of 416 MB size according to Check for Updates, on my Dell Windows 8.1 mini-Laptop using my Jio 4G mobile Internet connection. I thought of making a detailed log of the process capturing the time it took, as well as a summary of it, both for my own reference needs in the future and for anybody else who might be interested in such information.

Windows Update's Check for Updates tells us how big the download may be. This is important in the case of 1 GB/day Internet connections as if one downloads close to 1 GB or 1 GB in the morning/afternoon then there may not be any more 4G speed data available to them for the rest of the day on that connection. Especially for those persons who have only one Internet high speed connection with such 1 GB/day limit, this is important to note. Such big downloads may best be done in the evenings with the knowledge that the connection's 4G speed data may not be available for them after the download is done, till the per day data limit gets reset (few minutes after midnight in the case of Jio 4G).

Currently for me it is not so crucial as I have the additional BSNL landline broadband to fall back upon (even after crossing its 10 GB/day limit it will give me 1 Mbps speed; last month it continued, as an announced bonus kind-of thing, to give me 2 Mbps even after crossing the 10 GB limit).

Anyway, in my case the Windows update download size was reported by Check for Updates as 416 MB. So that's less than half of my 1 GB/day limit.

The higher speed of 5 Mbps or more during daytime that I can usually get from Jio 4G if the USB 4G modem/dongle is placed in my balcony, made Jio 4G the faster way to get the download done.

I started the Updates download (with Dell mini-Laptop placed on a small plastic table in the balcony and with USB 4G dongle directly connected to its USB port) at 10.29 AM. The initial part of the download seems to have got done very quickly as the reported percentage of download quickly moved to 39 % (perhaps in 4 to 5 minutes). Then it got stuck at 39 % for many minutes. Don't know whether that was a reporting issue or some real bottleneck. I was wondering what the issue was and did some Internet browsing on Windows Update (download) getting stuck (at a particular percentage). But when I later checked I found that it had jumped to somewhere in the 70's (completion percentage). The download got over at 10.45 AM (though the install of the updates process after that took more time).

So it took only 16 minutes for the 416 MB (Check for Updates reported) download from Microsoft Windows Updates server to get done using Jio 4G Mobile Internet.

The speed measure that I got from fast.com was around 7 Mbps or slightly more (RSSI typically in the -60s). Assuming speed of 7 Mbps, download of 416 MB should take 8 min 18 secs - for calc. see http://www.download-time.com/, if the server AND the Internet connection from server to client could provide sustained 7 Mbps speed. In my case, perhaps the (Microsoft Windows Update) server and/or the Internet connection from server to client could not deliver this speed. Anyway, around 15 minutes for 400+ MB Windows Update download is something that I am happy with.

Note that the previous successful Windows Update was done on this mini Laptop on 8th July 2017. The two month period between (successful) Windows Updates may be the reason for this Updates download to be over 400 MB.

The installation process got over at 11.29 AM (including restart and me having logged on with my regular userid). The installation process seems to have taken 10 minutes or so longer due to pauses for some of my notes about the installation process, Internet speed and data download figures reported by the 4G modem and Jio service provider.

So time taken for Windows Update was around 15 minutes for the download (416 MB) and 35 minutes for installation process (including restart of laptop) after that. If I had used my 2 Mbps BSNL Landline connection the download part may have taken half an hour to an hour, I guess. Of course, if I had done the same with my earlier 8 Mbps (real speed of around 6.5 Mbps) BSNL landline connection (about twice as expensive as the 2 Mbps plan), the time taken would have been similar to Jio 4G time of 15 minute download (of 416 MB Windows Update).

The detailed log given below may be skipped by readers not interested in such details.

Detailed Log

Dell Mini-Laptop on small plastic table in balcony with 4G USB modem/dongle directly connected to its USB port and aligned in a way that the dongle has clear line of access to outside balcony window area through insect-net window-pane. Mobile Internet service provider is Jio (in Puttaparthi).

10:29 AM (12th Sept. 2017): Start of 416.2 MB Windows Update download
10:31 AM - 18 % downloaded message
Got stuck at 39 % for some time (minutes) but seems to have resumed by itself with percentage downloaded jumping to 70's when I checked and noted that it had resumed.
10:40 AM - 91 % complete

Speed tests done while download is going on
Fast.com speed - 7 to 8 Mbps
Ookla Beta speed - 6 to 7 Mbps

10:43 AM: Stuck at 93 % complete
10:45 AM: Preparing to Install; So 100 % of download is completed.

Speed tests
10:47 AM: Ookla Beta - 9.37 Mbps
10:48 AM: Fast.com - 7.2 Mbps
RSSI was in the -60s dBm typically, from beginning of events captured in this log. Some readings: -65, -67, -63 ... but went into -70s at times e.g -76 dBm; And at times was in the -50s e.g. -58 dBm; but usual value would be in the -60s.

10:50 AM: Installing update 1 of 6

Before starting this entire activity, I checked Jio 4G data availability. It was full 1 GB.
10:52 AM: Jio 4G data availability shows 655.76 MB. [Note that it seems to take some time for Jio usage details to get updated to current usage. So I should check half an hour or so later to get proper data usage.]

10:54 AM: Installing update 2 of 6
11:03 AM: Installing update 4 of 6 [Update 3 took long to install]
11:07 AM: Installing update 5 of 6
11:08 AM: Installing update 6 of 6
11:10 AM: 'Restart PC to finish installation' message is shown. [So installation of update 6 of 6 is also done.]

11:10 AM: Disconnected Jio connection using Mobile Partner. Due to slow response to disconnect, I finger-pressed again which resulted in additional Connect (after disconnect) which I disconnected immediately. So I did not see the message box giving Upload and download data for the first (and main) connection/session. Fortunately, Mobile Partner maintains a log of data usage. From its log entry for the main session:
Start Time: 9/12/2017 10:23 AM; End Time: 9/12/2017 11:11 AM; Duration: 48 mins 20 secs
Upload Data: 30.99 MB; Download Data: 387.70 MB [So Total Data: 418.69 MB]
11:19 AM: Restarted Mini-Laptop [This is a 9/10 min pause for recording of data which should be deducted from total duration to arrive at download + install time for this Windows Update.]

[As Mini-Laptop is shutting down; Note that time is not shown on Mini-Laptop at this point]
Working on Updates - 21 % complete .. Don't turn off your computer [Message shown on laptop]
[Stuck at 30 % complete for some time.]
11:25 AM (Cell phone time): Restarting [Message on laptop]
11:28/11:29 AM (Cell phone time): Working on Updates - 62 % complete [After restart I think I saw it pick up from 30 % complete]
11:29 AM (Cell phone time): [Laptop computer is ready for logon; Note that Laptop time shows 11:28 AM showing that it is behind cell phone time by around 1 minute]

11:29 AM (Laptop time): Logged on
Control Panel -> Windows Update & Check for Updates menu choice (NOT Check for Updates button) shows:

Most recent check for updates: Today at 10.29 AM
Updates were installed: Today at 11:10 AM

Update history shows that last successful updates were done on 8th July 2017. [On 1st and 2nd Sept. 2017 some updates were tried but failed. I think the Mini-Laptop was on Automatic updates on those days. Further, from sometime close to and after 8th July 2017 till 1st Sept. 2017, the Mini Laptop does not seem to have been used due to which it was not connected to the Internet and so did not attempt any Windows update.]

11:34 AM: All of the above work was done.
11:36 AM: Checked Jio a/c 4G data availability; Showed same figure as earlier - 655.76 MB.

12:42 PM: I think a little while before or at 11:36 AM I may have connected to Jio 4G to check Jio a/c data availability. Shortly after that I would have disconnected Jio 4G. Then I moved the mini Laptop back to my computer table in my bedroom and connected it to BSNL landline Internet. Using this connection I checked Jio a/c 4G data availability (at 12:42 PM). It shows it as 622.99 MB. That is, Jio a/c 4G data usage for Windows Update and small speed tests in this log is 1024 - 622.99 = 401.01 MB.

5:51 PM (12th Sept. 2017): Jio a/c 4G data availability shows same figure of 622.99 MB (as shown at 12.42 PM). Under Usage details for 12th Sept. 2017 it has only one entry: 10:23:33 (AM) Consumed: 401.01 MB. Note that I am checking Jio a/c usage details on the web now using my BSNL landline broadband Internet connection.

BSNL 3G Mobile Internet desperately attempts to compete with 4G service providers; BSNL 3G speed tests on 13th Sept. 2017 in Puttaparthi **(2017-09-14 02:32)**

Last updated on 21st Sept. 2017

This post is more of a record of how Jio 4G Internet pricing and delivery (of decent speed mobile broadband Internet) has forced Indian govt.'s big telecom company, BSNL, to respond. BSNL does not have a 4G offering now. So it is trying to keep its 3G customers happy by offering them plans comparable in price, data usage and validity to Jio, even though its 3G speed cannot match Jio's 4G speed.

For users like me who need broadband Internet for desktop computer/laptop, it does not make any sense to consider BSNL 3G solutions when multiple vendors today in 2017 are offering 4G solutions (and so higher speed) at similar price in my town of Puttaparthi (in Andhra Pradesh, India). However, just a year ago, in 2016 (or for most of 2016 before Jio 4G became a reality in Puttaparthi and many other parts of India), most mobile Internet users in Puttaparthi were 3G mobile Internet users. For me, BSNL 3G mobile Internet was a workable bare-bones backup Internet connection if my regular BSNL landline broadband connection was not working, so long as I did not download hundreds of Megabytes (100s of MB) of data on it as that was expensive.

So while I think BSNL 3G mobile Internet is now something that I can ignore for current and future needs, from a history perspective, I wanted to put up this post. Readers who are not interested in such history kind-of stuff may please ignore this post.

Over the past few months, Indian govt. run BSNL has offered 3G mobile Internet plans (BSNL is not yet into 4G) which is competing price and data limit wise with Jio and other 4G Mobile Internet vendors in India. It seems that that these BSNL plans have got good response from its users. Perhaps there are many BSNL users in India on 3G phones who cannot avail of 4G Jio or other comparably priced 4G service providers in India as their phones cannot use them, and so they found these BSNL offers attractive. Jio is trying to disrupt this market segment too by accepting bookings of a near future 4G phone on deposit of Rs. 1500 and no additional charge, which seems to have got overbooked already. [https://www.jio.com/en-in/book-jio-phone claims that millions have booked the Jio phone. Here is a news item from Jio about the Jio (4G) phone: https://jioprime.org/reliance-jio-1500-phone-booking-registration/.]

This article, http://www.moneycontrol.com/news/business/bsnl-unveils-cheap-data-plan-offers - 270gb-data-for-rs-333-2264247.html, dated 24th April 2017, mentions three BSNL plans that seem to be comparable to Jio in price and validity (but not speed as BSNL is 3G and Jio is 4G). Here are the important features of two of these plans:
1) Rs. 333 Triple Ace plan gives upto 3 GB of 3G speed data per day for 90 days, along with unlimited local area voice calls.
2) Rs. 349 Dil Khol Ke Bol gives upto 2 GB of 3G speed data per day for 90 days, along with unlimited local and STD calls.

In mid-June of 2017, BSNL launched the "Chauka" plan - see http://www.timesnownews.com/business-economy/article/bsnl-chauka-mobile-broadba nd-plan-444-4gb-data-90-days/63371, dated 16th June 2017. The Rs. 444 plan offers upto 4GB of 3G data per day for 90 days. Looks like voice calls may NOT be free under this plan.

Now I don’t know whether one can migrate to the above plans from one’s current plan. I have an old Nokia E-52 single SIM phone which is 3G (and HSDPA which extends and improves 3G) capable which I use mainly for my mobile voice (and sometimes SMS) needs. On this mobile phone I use BSNL 3G service provider in Puttaparthi (I use BSNL SIM), and I am currently on BSNL Nestham plan with Rs. 450+ balance.

It seems that BSNL Andhra Pradesh (the state that I live in) is giving curtailed versions of the above, and also only data features of the above (not free voice calls) which, if I had wanted to, I could have used on my BSNL Nestham plan (without migrating to another plan). Here is what seems to be its current offerings for 3G DATA, which are typically through Special Tariff Vouchers (STVs) which deduct the amount associated with the STV, from the balance of the BSNL plan one is using:
http://www.ap.bsnl.co.in/flashapnews/3g _prepaid _data _plan.html.

The interesting DATA STVs are:
1) Rs. 333 which gives upto 1 GB of 3G speed data (and 80 Kbps afterwards) per day for 56 calendar days. [I don’t understand its 3 paisa (0.03 Rupee) for 10 KB charge "after freebies". Does it mean that above 1 GB usage limit on a particular day, one has to pay 3 paisa for 10 KB (around 3 Rs for 1 MB)? I wouldn’t be surprised if that’s what it means which is a dangerous money-balance eating trap that users who cross the 1GB limit but are not aware of it, may fall into.]

2) Rs. 444 which gives upto 2 GB of 3G speed data (and 80 Kbps afterwards) per day for 90 calendar days. For this plan, the data charges after freebies is listed as NIL. So I think on this plan, the users don't have to fear the money-balance eating trap when they cross the per day data limit (2 GB) on any days.

These plans drop the effective rates for BSNL 3G data usage DRASTICALLY from what it was in 2016 (before Jio disrupted the market). The same link above provides the 2016 DATA STVs too, which are current now in 2017. I have listed some of them below to show how expensive they are in today's Jio 4G disrupted mobile Internet market.

3) Rs. 17 - 110 MB, 1 day validity
Rs. 39 - 200 MB, 5 day validity
Rs. 78 - 2 GB, 5 day validity
Rs. 549 - 10 GB, 30 day validity
Rs. 821 - 12 GB, 60 day validity

Note that without these STVs (or after crossing the data amount of these STVs), the regular charge of Rs. 0.03 for 10 KB of data will apply. If I understood it correctly, that comes to around Rs. 3 for 1 MB, around Rs. 300 for 100 MB, and around Rs. 3000 for 1 GB!!! So without using an STV, BSNL 3G data was prohibitively expensive in 2016 and continues to be prohibitively expensive today for standard/popular plans like BSNL Nestham which is what I am on.

But even with the above STVs, listed under point 3 above, we are seeing rates of around Rs. 50 per GB (or higher for the smaller data amount STVs). That is what made the 2016 BSNL 3G data offerings even when used with STV, very expensive as a regular Internet facility for computer users like me.

The new offerings mentioned above of Rs. 333, Rs. 349 and Rs. 444 plans, as well as comparatively less attractive STVs of Rs. 333 and Rs. 444, giving 1 or 2 or 4 GB data/per day at 3G speeds for 56 to 90 days, makes BSNL 3G far more attractive cost wise as a mobile Internet service for regular computer usage (as against limited smartphone usage).

But what about the speed of BSNL 3G TODAY in Puttaparthi? Is it in the range of 0.4 or 0.5 Mbps (around 400 to 500 Kbps), in which case the speed may be too poor for activities like Facebook scrolling (lots of images are loaded) and youtube video watching on laptop/desktop computer or Windows Update downloads.

My initial tests today afternoon surprised me with fast.com and beta.speedtest.net initially reporting poor speed (less than 500 Kbps) but repeat tests taking the speed in the range of 1.5 to 2 Mbps!!! At that speed, Facebook wall scrolling showed the images quickly, youtube videos played without much pausing ... It was a pretty OK Internet usage on laptop experience.

But tests in the late evening and night gave very disappointing speeds of 100 Kbps, 140 Kbps etc. by fast.com. Beta.speedtest.net speed tests did not even work! No single fast.com test during this period gave 1 Mbps speed or above. In fact I think it never crossed 500 Kbps. Perhaps the BSNL network gets heavily loaded during late evening and night time (I think there are voice call freebies that come into play after 9 PM every day which may be impacting 3G data throughput as well) resulting in the Internet speed dropping to very poor levels.

Given below is a detailed log of my tests. Readers who are not interested in such details may please skip reading the rest of this post.

Detailed Log

Dell Mini-Laptop on my computer table in bedroom. Nokia E-52 connected to it via USB cable (micro-USB connector on Nokia phone side). Service provider is BSNL 3G (one exception is clearly indicated). Date of tests: 13th Sept. 2017

On connecting to Internet via Nokia Suite I get a message that the speed is 460.8 Kbps or something like that. Now this message from Nokia Suite is MISLEADING. As the data below shows, some of the speed tests report significantly higher speeds. http://forums.whirlpool.net.au/archive/1 860028 has a forum user stating, "Nokia Suite reports 460.8 because that has something to do with USB 2.0. If you run a speedtest on speedtest.net you will see that this 460.8 limit is irrelevant – I got a download speed of 7.38mbps to Telstra Melb!" From https://en.wikipedia.org/wiki/USB #USB _2.0, "USB 2.0 was released in April 2000, adding a higher maximum signaling rate of 480 Mbit/s (High Speed or High Bandwidth), in addition to the USB 1.x Full Speed signaling rate of 12 Mbit/s. Due to bus access constraints, the effective throughput of the High Speed signaling rate is limited to 280 Mbit/s or 35 MB/s."

[Update on 21st Sept. 2017: Note that the Nokia Suite WRONGLY reported speed of 460.8 is Kbps (Kilo bits per second) speed. Whereas even with USB 2.0 the above effective speed is 280 Mbps (Mega bits per second)!!! 460.8 Kbps is less than half of even 1 Mbps. So the USB 2.0 limit message above for WRONGLY reported 460.8 Kbps speed in Nokia Suite application is MISLEADING!! end-Update]

Note that my Dell mini-Laptop has USB 3.0 ports which is what I connected the Nokia phone to. However, my desktop computer has USB 2.0 ports and no USB 3.0 ports (an upgrade to new motherboard with USB 3.0 ports has been ordered as the old motherboard seems to have developed some problems). From https://en.wikipedia.org/wiki/USB #USB _3.0, "The USB 3.0 specification was released on 12 November 2008, .. " .. "The new SuperSpeed mode provides a data signaling rate of 5.0 Gbit/s. However, due to the overhead incurred by 8b/10b encoding, the payload throughput is actually 4 Gbit/s, and the specification considers it reasonable to achieve only around 3.2 Gbit/s (0.4 GB/s or 400 MB/s). However, this should increase with future hardware advances." So USB 3.0 max achievable speed as per above statements (which could have been made obsolete by 'hardware advances') is 3.2 Gbps which is around 3200 Mbps, well above what BSNL 3G speed in Puttaparthi can deliver!

[Update on 21st Sept. 2017. I got confused between 480 Mbps USB 2.0 limit and 460.8 Kbps WRONGLY REPORTED Nokia Suite speed. The first sentence below was made in that context. end-Update]

I must say here that I did not realize that even in 2016 when, on very few occasions, I had used my Nokia phone's 3G BSNL service connected to my desktop computer's USB 2.0 ports, that the USB 2.0 port may have been limiting (to 460.8 Mbps) any higher than 460.8 Mbps speed that BSNL 3G may have delivered to my Nokia phone! [21st Sept 2017 Update: How can BSNL 3G in Puttaparthi ever even dream to deliver 460.8 Mbps speed! I tripped up as explained earlier. I am retaining this trip-up after flagging it as an error as a record of such trip-ups. Hopefully I will not make such egregious mistakes in future. end-Update] But then I was using that arrangement as a bare-bones backup Internet service with limited data consumption (due to high cost of data per 100 MB) when my BSNL landline broadband failed (which was NOT often). Due to its high cost per 100 MB, I was not really interested in using BSNL

3G Internet service as a broadband kind of service even if it was offering speed of say 2 Mbps or more.

Today, when I tested with fast.com, initially the speeds were shown as around 500 Kbps but repeat tests took it higher! Later I tried with Ookla Beta - initial tests did not even run. First Ookla Beta test that ran gave 600 Kbps or so DL speed but over 1 Mbps upload speed.

These results surprised me (pleasantly). So I ran two proper tests whose results are given below.

I am using STV DATA17 (110 MB costing Rs. 17 which gets deducted from balance available on BSNL plan).

) 1.95 Mbps, around 3.24 PM http://beta.speedtest.net/result/6620040 187
) 1.1 Mbps, 3.29 PM, fast.com

Hmm. So I can get over 1 Mbps on my BSNL 3G connection via Nokia phone placed on computer table in my bedroom! That's very interesting!

On disconnect, got a message on Nokia phone that last data usage was around 34.5 MB and that 75.5 MB balance is available in APSTV17.

Seated in balcony with Mini-Laptop and phone connected to it via USB
) 1.9 Mbps, 3.46 PM, fast.com
) 1.72 Mbps, 3.50 PM, http://beta.speedtest.net/result/6620095545

Checked out Facebook (including scrolling through Facebook wall), gmail, Google News, and few seconds playback of youtube video. It was not bad in terms of response speed. While it did seem to take some time especially for initial load (some seconds), it did not show image placeholders including when I was doing scrolling on Facebook wall. I mean, this was not 460 Kbps speed; it was 1 Mbps+ speed and more like 1.5 Mbps+ speed (though it seemed to me that the response time was not as good as with BSNL landline 2 Mbps plan speed).

I need to test more with youtube video before I can be sure. Meanwhile I am concerned about exhausting the 75 MB data left when I started this round of tests.

) 2.2 Mbps, 4.02 PM, fast.com
———-

On disconnect I get the message saying, 49.8 MB of last data (session) usage. Remaining data 25.6 MB from APSTV17.

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Just for comparison I did a couple of speed tests with Dell mini-Laptop back on computer table in bedroom and Huawei 4G USB dongle with JIO SIM directly connected to it. Bedroom-balcony door is open and the glass window pane is closed, with 4G dongle having direct line of access to outside (glass window covered) window area.

) 4.8 Mbps, 4.33 PM, fast.com
) 2.69 Mbps, 4.36 PM, http://beta.speedtest.net/result/6620198601
) 3.54 Mbps, 4.38 PM, http://beta.speedtest.net/result/6620201233
) 3.3 Mbps, 4.39 PM, fast.com
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11:05 PM: Around maybe 10.15 PM or so I was trying to check speed using fast.com on Nokia phone itself. It was showing numbers like 120 and 200 odd without specifying Kbps (instead it showed Mbps as I scrolled down on my tiny around 2.5 inch diagonal (non-touch) screen). I also tried some other sites. Text sites came up well. Youtube video listed videos but Real Player playback failed (I think that has to do with some settings perhaps on the phone).

Around 10.50 PM or so I connected my Nokia E-52 phone via micro-USB to USB cable to my Dell Mini Laptop and connected to 3G BSNL network. This time around the speeds were abysmally poor. Laptop is on computer table in bedroom. Phone was on computer table or on smaller plastic table next to it. The bedroom-balcony door was closed.

Fast.com repeatedly gave speeds way below 1 Mbps (100 Kbps, 140 Kbps etc.). Facebook wall scrolling showed placeholders instead of images.

Did some tests and browsing to exhaust remaining 24 or so MB of STV data. I wanted to see whether it rolls over to non-STV regular Nestham charge of 0.03 Rs per 10 KB of data without asking me about it. I think that’s what happens. It just rolls over to non-STV very high data charge WITHOUT ASKING ME!!!

I was checking the data usage on the Nokia Suite application on Mini-Laptop. As it touched 24 MB I decided to disconnect. On disconnect, the message that came up on my Nokia E-52 phone was, "Your last Data usage 24Mb 640 Kb 545bytes. Remaining balance 0bytes in APSTV17. Call Cost 0.570. Main Bal Rs. 466.861".

I also (after disconnect) saw that an SMS had been sent from BSNL, "Reminder 2: Your remaining data volume is 9 Mb 636 Kb 648bytes."

Using *124 # on mobile phone I got the last 5 call details. Only last call had GPRS call cost of 0.57 INR (Indian Rupees). The four calls previous to that had 0 INR cost (as it was getting adjusted with the STV).

So clearly there is a big danger while using BSNL 3G browsing with STVs, of exhausting the STV data (like I exhausted the 110 MB Rs. 17 STV) and getting onto non-STV very exorbitant rate of around Rs. 300 for 100 MB!!! Rs 0.03 for 10 KB makes it around Rs. 3 for 1 MB and so around Rs. 300 for 100 MB. And Rs. 3000 for 1 GB!!! Scary that inadvertently one can rapidly empty one’s balance with download of 100’s of MB data after the STV data has got exhausted. But that’s the reality with BSNL Mobile Internet model of charging users.

[Today evening I was discussing this very high non-STV data usage charge in BSNL regular plans (like Nestham) with a Puttaparthi shopkeeper who provides mobile related products & services among other things. He told me of a case some time back (perhaps a year or two ago) where a customer (serving in Puttaparthi ashram system, I guess) asked him to recharge her BSNL 3G plan on her phone by over Rs. 3000 using some recharge option that gave large amount of talk time. Her phone was

a smartphone. Shockingly, most (or was it all?) of this recharged amount (over Rs. 3000) had got deducted from her balance over the course of the next two days or so! On checking, the BSNL customer support staff informed her that large amount of data had been downloaded. And she was not on any DATA STV! Perhaps she downloaded, say 1 GB of data either consciously or unconsciously (automatic downloads). As she was not on any DATA STV, that, say 1 GB of data would have cost her around Rs. 3000 (at Rs. 0.03 per 10 KB of data) all of which got deducted from her balance! What a money-eating trap these complicated BSNL charging schemes are for mobile Internet data usage!]
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Readers who are interested in detailed log info. about a related post of mine done last year, may want to read this post of mine, June 2016: PC Net browsing via BSNL Mobile – Charges & Setup, https://ravisiyer.wordpress.com/2016/06/ 01/june-2016-pc-net-browsing-via-bsnl-mobile-charges-setup/.

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Terry Reis Kennedy is a USA citizen who lives significant amount of time in Puttaparthi. She is a writer and is active on social media (Facebook), and mainly uses a Windows OS computer to do her Internet work (as against smartphone).

Terry responded over email (edited) and was OK with sharing it publicly (in edited way):
Wow! Good work, Ravi. You have written so clearly that even I am able to understand everything. This is proof to me that when a person writes clearly I can understand the subject…whatever it is.

[About some computer service person(s):] They are knowledgeable and are able to fix computer problems but not able to TEACH. Their communication skills to the user of the computer are not clear. If they were, I would understand what they are saying. They take the attitude that there is no need for me to understand…… just use the device and when it is not responding call them………….

I can see now that I will have to switch to the Jio plan later. …

Thank you for your wonderful article. It [Ravi: I think she is referring to Jio 4G Mobile Internet disrupting Internet service provider business due to its cheap price and reasonable broadband speed] really is historic. BSNL has to do SOMETHING….and also get more than two people in our local office [Ravi: I think she is referring to BSNL local office] who can communicate not only in English….but in a language, computer user language, that people can understand.

Swami bless you for this seva,
—-

I (Ravi) responded as follows (edited):

Thanks Terry. Such responses give vital feedback to me that my time spent in composing the public post DID help at least one person!

[Note that Terry is not computer hardware/ Windows OS software tech savvy. But she is a regular computer user and is experienced/savvy in using Internet applications like Gmail and Facebook. About her kind words about my writing which enabled her to understand everything in the post:]

Thanks. Well, I was a teacher or mentor for significant part of my nearly two decades in the software industry. And then I was a (free service) teacher of software lab. courses in Sathya Sai university for 9 years. So there is a lot of teaching/mentoring experience that I have. And in most of my free service social media work over the past 6 years I have consciously retained a teacher style of communication/writing using simple language, repetition [repetition helps to drive home a point to a student/reader who may not have properly understood or even heard/read it the first time] and a conversational style as against an expert writing to other experts in succinct and tech-jargon-heavy language style that would be hard to understand for most, if not all, non-experts.

At times though, it was necessary for me to use software expert-to-expert style of written communication even in some of my public social media posts. But I think such posts are quite limited and I usually put out a warning note to readers about the post/part of the post being technically detailed/involved.

[About some computer service person(s) attitude towards their computer user customers:]
That is the attitude a businessman who earns his living through such services, typically has. He is not a teacher and is not a free service man. To be frank, it is to his advantage commercially to not educate his customers and have some sort of customer dependency on him. When I was an international software consultant charging hourly rates, in the second half of the 90s and early 2000s, I would have had a similar approach, I guess, except for situations where I was being paid for teaching staff of a company. Time while providing my software expertise as a consultant to commercial orgns, was literally money for me then! Of course, during this period, I also provided some free services to my Sathya Sai samithi (local centre) with some computer work (and other non-computer work) - that was spiritual work and not commercial livelihood-earning work.

[About BSNL having to do SOMETHING and the suggestion of BSNL having more than two people in the local office who can communicate in computer user language that people can understand:] I think BSNL not only in Puttaparthi, but throughout Andhra Pradesh and throughout India, would be in a desperate mode now fighting to retain as many of its customers as possible (and so keep its loss of revenue to as low as possible), as so many of its customers (including me) seem to be migrating to 4G mobile Internet service providers like Jio. In such business wise grim situations, employing new staff for better customer interactions may not be so easy for a public sector (government owned) company like BSNL.

[About her Swami blessings to me:] Thank you very much, Terry. I do view such social media work of mine as Seva [service as a spiritual offering to society] and am happy that it has benefited you.
—-

Terry responded (part of her response; slightly edited):
Personally, I think your post will help so many, many others. Here in rural India, we buy the equipment and then no one wants to show us how to use it. We have so many computer persons who will come and do the needful that if you knew how to do it, you'd not need to call them.

They will even agree to work for you. Where is the person who can teach?
—-

I (Ravi) added the following links to previous blog posts of mine as they might help readers who want to know more about using Reliance Jio 4G Mobile Internet as a (primary) Internet service provider for their computer/laptop (as against smartphone).

1) Planning to have Jio 4G mobile Internet 399 pkg + Lower cost BSNL 470ULD Landline broad-

band, https://goo.gl/icuH1G, dated 30th July 2017

2) Changed BSNL BB plan to 470ULD; using Jio 4G mobile Internet as primary and BSNL BB as secondary, https://goo.gl/CJHMsX, dated 6th Aug. 2017

3) Q &A about how I bought & set up my Reliance Jio 4G mobile Internet connection in Puttaparthi for use with my desktop PC, https://goo.gl/ypMGG8, dated 9th Aug. 2017

4) Pune based correspondent tries out Jio 4G Mobile Internet; gets 25 Mbps speed, and is happy with it so far, https://goo.gl/d2U3vK, dated 1st Sept. 2017

5) Windows Update using Mobile Internet plan with 1GB/day 4G speed data limit in Puttaparthi, https://goo.gl/xJRDQR, 12th Sept. 2017

To have two active Jio 4G Internet connections you need two Jio SIMs and two plans; One Jio SIM cannot have two active 4G plans (2017-09-16 13:52)

I wanted to know if I could have two Jio plans simultaneously associated with my Jio SIM, and could have the ability to switch from one plan to another on the same SIM, using the Jio web portal interface. Jio Customer care replied in the NEGATIVE. I thought it may be useful to some readers if I shared a slightly edited version of my mail to them.

The main part of my mail to Jio care <care@jio.com> with subject "Is it possible to have two prepaid plans (not recharge plans) associated with same Jio SIM?", dated 14th Sept. 2017, is given below:

Dear sir/madam,

I have Jio Number —- and am currently on its Rs. 399 (JDDD 399) prepaid plan which gives 1 GB/day data at 4G speed (and 128 Kbps beyond).

I am aware that if I exhaust 1 GB 4G speed data on any day, I have the option of using recharge packs. But I find those recharge packs to be expensive.

Is it possible for me to simultaneously have another plan, like Rs. 999 prepaid plan, which I could normally keep as an inactive plan (suspend the plan) but on days when I cross 1 GB per day limit on my JDDD 399 plan, I make the JDDD 399 plan as inactive and make the Rs. 999 plan as active? If so, can I do that myself using the Jio account web portal?

Thanks & Regards
— end main part of my mail to Jio care —
[Note that the Rs. 999 plan seems to give 90 GB total data over a maximum period of 90 days without any quota per day or any limit per day [see http://www.jio.com/en-in/4g-plans]. So it seems that one can use, say 1 GB of data totally over the first 10 days, leaving one, at the beginning of the 11th day, with a data balance of 89 GB data expiring after 80 days. On the 11th day one could consume 20 GB

of data, leaving one, at the beginning of the 12th day, with a data balance of 69 GB expiring after 79 days.]
—–
Jio care mail response to me on 15th Sept. 2017, informed me that I cannot activate dual plans on my Jio number. [I am not sharing the exact mail response as there is some standard confidentiality clause at the end of the mail response!!! I want to be a co-operative customer of Jio, which is giving me such a great and economical broadband Internet solution in my rural town of Puttaparthi, Andhra Pradesh, India.]

Ravi: So if I want to have two active Jio Internet connections I will need to have two Jio SIMs, each with their own Jio 4G plans. And if I want to avoid swapping the two SIMs in and out of a single 4G modem/router, I will need to have two modem/router devices each having one Jio SIM.

Bought a new JioFi (WiFi) Internet access device; Getting its free data offer to work needed calls to Jio customer care (2017-09-16 18:41)

Last updated on 17th Sept. 2017
Over the past few weeks I have got comfortable with using Jio 4G Mobile Internet via a USB modem (dongle) with a Rs. 399 plan giving 1 GB/day for 84 days [see http://www.jio.com/en-in/4g-plans], as my primary Internet connection. However, on some days I cross the 1 GB 4G speed data limit (after which speed drops to 128 Kbps), at which time I use the secondary Internet connection of BSNL landline broadband ULD 470 plan which comes with taxes to slightly over Rs. 550 per month, and gives 2 Mbps speed till 10 GB, and 1 Mbps speed beyond.

Now the Jio Rs. 399 plan for 84 days works out to Rs. 147.25 for 31 days, so we can say around Rs. 150 per month.

The secondary plan of BSNL broadband seems to be too expensive, in comparison! After a lot of exploration and thinking (including considering an Airtel 4G connection), I decided to go for a secondary Jio 4G connection, initally of 2 GB/day with another Jio Internet device. The Rs. 509 plan gives 2 GB/day for 56 days, which works out to Rs. 281.76 for 31 days, say around Rs. 280 per month. I decided to try out this plan as my secondary Internet plan and if that works out well, phase out the BSNL Broadband connection costing me around Rs. 550 per month, giving me a saving of around Rs. 270 per month.

Now if I want to have two active Jio Internet connections I will need to have two Jio SIMs, each with their own Jio 4G plans. And if I want to avoid swapping the two SIMs in and out of a single 4G modem/router, I will need to have two modem/router devices each having one Jio SIM. [For details on this see my post, To have two active Jio 4G Internet connections you need two Jio SIMs and two plans; One Jio SIM cannot have two active 4G plans, https://goo.gl/LWA3mH, dated 16th Sept. 2017.]

https://www.jio.com/shop/en-in/jiofi/p/491193576 shows details of the Jio Fi 3 router device that I found to be of interest. Its main features are as follows:
Creates an Internet HotSpot using Jio 4G Internet service
10 WiFi enabled devices (laptop, smartphone, desktop with WiFi facility etc.) can optimally connect to

the Hotspot (max is 31 such devices)
One USB connection
Portable (as it is small)
Battery is claimed to last 7 to 8 hours
Through a device (Android OS and iOS devices only, I guess, but NOT old Symbian OS devices like my old Nokia E-52 phone) having Jio4GVoice app. free voice calls can be made (local and STD) using the JioFi router's WiFi connection.

[BTW the JioFi 3 (and JioFi 2) works with the battery removed from the device, if it is connected to AC power source through its charger cable and AC adapter (both of which are supplied in the package). This aspect is NOT advertised by Jio but may be more of a discovery by JioFi users. In this video from around 3 min you can see a person demonstrate this: https://www.youtube.com/watch?v=-M05oBDsXtE, around 5 mins, Feb. 21st 2017. One comment in this video page indicates that JioFi 3 when connected to laptop using the USB-cum-charger cable works without battery! However, as there does not seem to be any official word of this feature in the Jio website, I don't know whether such usage of JioFi 3 without battery is approved by Reliance Jio company.]

The online price is Rs. 1,999. But this price gets effectively reduced by a few interesting free data (and free voice) offers. Three of the four options are interesting, which are:
) 1 GB/day for 28 days * 6 (close to six months)
) 2 GB/day for 28 days * 4 (close to 4 months)
) 60 GB for 60 days * 2 (around 4 months and 120 GB totally)

15th Sept. 2017 Log/Note (slightly edited)

Over the past two to three days or so, I was making inquiries in Puttaparthi local shops about this device and the free data offers. Sales persons at one shop which seems to be an only Jio and Jio authorised dealer shop, showed me the JioFi 3 device and also showed unopened JioFi 3 device packages available with them. The price quoted was Rs. 2200 and they also said that free data offers are available but the free offers they were saying did not exactly match what I read on the Jio website.

I was prepared to pay the higher price of Rs. 2200 for immediate delivery and activation support service as well as other support service that they were offering me. But I wanted to have the free data offers as per Jio website. So I went on 15th Sept. 2017 evening with my Dell Mini-Laptop (and my 4G USB modem/dongle with my first Jio SIM as my Mobile Internet connection) to the shop, and showed them the webpage detailing the free offer.

I think support to these shopkeepers/shop sales & support persons in Puttaparthi (rural town in India) from Jio representatives may not be all that great in terms of teaching them about all the details of their products and the various data offers and how to process such offers for customers. So I wanted to work with the shop sales and support persons to get something reasonable for me.

On showing the webpage with the data offer details, the shop persons agreed that these data offers would be available to me after I buy the device. So I went ahead with the purchase which involved some customer verification (by local Aadhar number and thumbprint on a fingerprint recognition device in my case) and some details being entered in some Jio sales software, I guess. While doing this process they told me that the 60 GB data for 60 days * 2 cycles free data offer was not listed in their online procedure/software system. But both the 1 GB/day for close to 6 months and 2 GB/day for close to 4 months options were available. I chose the 2 GB/day option as my free data option.

The formalities were completed, as per the shop persons, around 7.15 PM or so on 15th Sept. 2017. They had been kind enough to open the packed JioFi device box in front of me and explain its components. They had then put the SIM (taken from separate pack) into the JioFi device, and connected the battery to the JioFi device. The support person had switched on the JioFi device explaining to me the two simple buttons on the WiFi device.

That’s it, they said. They told me it will take a couple of hours for the data to become available on the JioFi device.

At 7:13 PM I got an SMS about the SIM activation on my BSNL provider Nokia 3G phone which I had specified as an alternate number. The key part of the message was: "Your Jio Number xxxx has been successfully activated. Kindly insert your Jio sim in Sim slot 1 of your dual sim handset, ..." So the Jio setup procedure is geared for 4G smartphone and NOT the WiFi router. This created one problem for me which I have explained later on.

Around an hour or so later, in my apartment flat, I checked out the JioFi router connectivity with my Dell Mini-Laptop. That part was a breeze. Over WiFi on the laptop, the router showed up as the name/SSID written at the bottom of the cylindrical box package of the router. Its password was also printed there, which I entered when I clicked the connect to router WiFi SSID/name option on laptop. Then the laptop was connected to the router over WiFi. But it attempted to open some Microsoft link which failed and I got shown a (local) page stating that I have to recharge my account (SIM). As two hour period had not passed, I thought I should wait till that period is over.

However, there was NO PROBLEM in accessing the administrator settings of the router using the browser. I could also connect the router to the Laptop with its USB cable (micro-USB on router side), which started charging the device as well. [There is another separate charger provided which can be plugged into the mains and connected to router using the same USB cable. I tried that later on and it seems to do the charging properly. Note that one can switch off the router or keep it on while one is charging.]

Meanwhile I also tried to see if I could add this new Jio SIM to my Jio web portal account which already has one SIM associated with it (which is viewed as primary SIM/account, I think). The process of adding another ’account’ (SIM) involved an OTP being sent to the same SIM via SMS! Now if I were using the SIM on a smartphone, I would have no problem as I could access the SMS on the phone. But here it was a WiFi device! In its web administration interface I could not find any SMS receiving & display facility!

Then there was the bigger problem that even at 9.30 PM or so (two hours after the new SIM had got activated), I still was not able to browse the Internet with the router and new SIM! So I realized that there was some problem that I would need to sort out using the help of shop sales and support persons.

However, I thought of trying out calling Jio customer care (1-800-88-99999), and seeing if I could sort out the problem using their help. Perhaps I made the first call around 10.15 or 10.20 PM. The service guy (getting to the service person required some navigation of automated interactions) understood my two above mentioned problems. For the first one he said that my BSNL number which was already listed with them, has to be made some ’alternate’ contact number (or something like that) after which the OTP PIN will be sent to it, instead of the (new) Jio SIM. He then said that after that is done, I could use some voucher option to activate my 2GB/day free data offer (for 4 cycles of 28 days). He also initiated something which sent the OTP PIN (for new SIM account addition) to my BSNL cellphone.

After finishing the call (I am not that savvy with mobile phones to multi-task), I looked up the SMS received on my BSNL cell phone and used that to create an additional "Linked" SIM ’account’ for the new SIM on my Jio web account portal. That part went through quite easily. Now there is a Primary Account which is my first SIM number associated account and a Linked Account which is this new SIM number associated account.

On choosing the Linked SIM ’account’ on my Jio portal account page, I could see under Summary the message, "You are on a pay-as-you-go plan. Your usage will be charged from monetary balance. Check tariffs for your plan." Now, for prepaid plans (which is what I use), this is where the available data for the day is typically shown along name and validity period of Jio plan that is active (for that SIM)!

But under My Plans I saw an entry "1 Active Plan" and under it, "MRP 509 * 4 + PRIME", with a message, "Valid Till 13 Oct 2017 19:13". [15th Sept. 2017 19:13 to 13th Oct. 2017 19:13 seems to be the first of the four 28 day cycles. I think this 509 plan is the older Jio plan which was for 28 days giving 2 GB/day, and which is part of the JioFi data offer. The current plan is Rs. 509 for 56 days giving 2 GB/day but that is not linked to the data offer.]

It was good to see the free data offer plans listed and active. But Summary was not showing it! I looked around for any vouchers button/menu choice/option but did not find it. I even tried going through the Recharge procedure but backed off (cancelled it) when I was taken to a payment page! So I was stuck.

Around 10.45 PM I called Jio customer service again. The lady who responded confirmed to me that my Jio (new) SIM number had 509 plan * 4 cycles (2 GB/day x 28 days - 4 cycles) offer listed. But she said the store/seller did not ATTACH the IMEI number of JioFi device/router (listed at bottom of JioFi cylindrical box package) to the SIM (which is a separate pack/pouch)! Therefore the data is not being accessible to the JioFi router! But, on questioning her, she told me that the plan’s validity period meter had started!

She told me that I should wait till tomorrow by which time the problem would get fixed by the shopkeeper doing the task of ATTACHING the IMEI number to the SIM. I was not sure how that would happen as I told her that the shop staff felt that they had finished their work. She also told me that the ONLY persons who can ATTACH the IMEI number to the SIM were the shop/store persons and that even they - Jio customer care - could not do it. As I digested all this, I told her that perhaps the best thing was for me to approach the shop/store persons in the morning tomorrow, explaining all this and asking them to do this router (JioFi) IMEI number ATTACHMENT to SIM. She was very supportive of that. So that’s what I need to do tomorrow (16th Sept.) morning. Hopefully the shop persons will understand what I am saying and then do the needful. If not, I can call up Jio customer care from the shop itself and try to resolve the problem there itself.
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16th Sept. 2017 Note/Log

Today morning slightly after 10 AM I went to the Jio shop in Puttaparthi along with Laptop, WiFi Router, its box and SIM pouch. I explained the issue to the shop staff. I also demonstrated the lack of Internet access from router on laptop after WiFi connection was established.

The support guy called up his Jio support person who gave him some instructions. The support person that tried out some something on his phone app (connected to Jio software system I guess).

But that did not solve the problem. He also tried changing settings on my Jio portal account. But that too did not help.

After half an hour or so of lack of progress, I suggested to the support person - a youngster - that I could try calling Jio customer care and see if they could help. He was not in favour of it.

Sometime later, perhaps after additional fifteen to twenty minutes of no progress, I repeated my suggestion of me calling up Jio customer care, this time more forcefully. He did not object so much and so I called up Jio care. A lady came on the line and grasped the situation quite quickly, also referring to past two calls history of mine, I guess. I told her that the shop support staff are NOT able to solve the problem.

She then asked me for the IMEI number which I conveyed. She also confirmed the date and time of purchase. She said that she has filed a support request to ATTACH the IMEI number to the SIM number and that it will get done within 48 hours. She said I could track the request through my Jio account on the Jio portal. If it does not get done in 48 hours I can call Jio customer care again.

After the call got over, I checked on Jio portal -> Support -> Service Request -> Choosing my Linked Account instead of Primary Account. I saw an Open Service Request with details "Tariff Plans-Pack Activation/Deactivation", created on 16th Sep. 2017 at 11:13 and an estimated resolution time of 18 Sep. 2017 11:13.

As I type this is in, it is around 6.25 PM., the service request status is same as above. So no solution yet.

The shop support person said he would like to try something more, perhaps by calling his Jio support person. But I was not in favour of that. I did not want any new efforts by the support person to interfere with the service request initiated by customer care. So we decided to wait for Jio Care's service request to sort out the issue.

Overall, while I am disappointed that the free data offer did not kick in within a couple of hours after I had bought the router & SIM, and then activated the SIM, I am glad that Jio support is able to understand the problem quite well, and make clear suggestions about what I should do to attempt to solve the problem. Yes, the suggestion to go to the shop in the morning and get them to do the ATTACHMENT of JioFi router IMEI to SIM did not work. But that may be due to lack of knowledge about the process on part of the young support staff (perhaps due to lack of suitable training).

When I called up Jio support again today morning they did understand that I had made efforts from my side and perhaps that's why they decided to initiate the IMEI attachment request from their end. If it solves my problem, I think I will be happy even if I had to wait a few days (and lost a few days validity period) for the free data offer. The bigger thing/achievement would be that in rural town of Puttaparthi, I would have been able to avail of the free data offer.

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17th Sept. 2017 Note/Log

JioFi 3 router's free data 2GB/day plan is working now!

I was very happy to see around 12:30 PM today afternoon (17th Sept. 2017) the entry corresponding to my new Jio SIM Linked account on Jio web portal show 2 GB data available! BTW I had not checked this earlier today. So I don't know when exactly it got set.

Around 1:30 PM I checked whether Internet access is available now with my new JioFi 3 device having the new SIM. As expected it is available. So the Jio customer care people did solve my free data plan not working problem!

Under My Plans for the new SIM Linked account in my Jio web portal, two plans are listed as active.
1) MRP 509 * 4 + PRIME
[It shows a 'Tariff Charges' link]
Valid Till 13 Oct 2017 19:13
2) MRP 509 * 4 + PRIME
[This lists info. like 2 GB/day data, 100 SMS/day and Unlimited Mobile Voice.]
Valid Till 07 Jan 2018 03:30
— end of My Plans info. —

The second plan listed above was not there earlier (yesterday). It seems to have been added by Jio support staff which has solved my data access problem. Note that it may have been done today, 17th Sept. 2017 at 03:30 AM due to which the 28 * 4 days validity period takes it to 07 Jan 2018 03:30. [Used http://www.thecalculatorsite.com/misc/days-between-dates.php to get the days period between these two dates. It is 112 days which is 28 * 4 days.]

So perhaps there was an additional issue related to the way the first plan entry above was created by the shop support person, as its validity period was only till 13th Oct. 2017 which would have been only 28 days from 15th Sept. 2017.

The new plan also resolves the lost two days of validity period issue I had with the earlier plan!

So while I did face problems in getting the free data offer to work, Jio support staff were very co-operative, understood my free data offer related problem quickly and over 3 calls I made to them on the matter, gradually got closer to the solution and eventually gave me the solution without me losing out on validity period during this period of problem resolution. They were also polite and even apologetic that I was facing this problem in availing the free data offer. I am very happy with Jio customer care/support so far.

I plan to do some speed tests using the new JioFi 3 router and new SIM (with 2 GB/day) plan. But I have already noted that if I keep the JioFi router horizontal next to my laptop on my computer desk in my bedroom, its signal strength indicator shows blue color indicating medium strength. If I hold it vertically the signal strength indicator shows green color indicating good (best indicator value) strength. To keep it vertically and stable, one would need some arrangement to prevent the JioFi3 from falling, as its vertical base is very thin.

But even with blue color indicator (JioFi kept horizontally) on my computer table, I am able to scroll through Facebook with images showing up quite quickly, though at times one sees an image placeholder which quickly gets replaced by the image. Fast.com reported the speed as 1.1 Mbps. Note that Windows Update setting was (Automatic) Check for Updates and so there is a possibility of some automatic Check for Updates slowing down the fast.com speed test.

Later speed tests with JioFi 3 kept in almost vertical position on computer table next to my laptop, gave speeds typically between 3 to 6 Mbps. The horizontal flat on computer table position for the Jio Fi 3 is a not a good position/placement and must be avoided.

Speed tests of Jio 4G Internet connection through JioFi 3 router in my Puttaparthi flat

(2017-09-17 23:53)

Last updated on 18th Sept. 2017
Summary of results from Jio 4G WiFi router (JioFi 3) Internet speed tests conducted today (17th Sept. 2017) in my flat in Puttaparthi, Andhra Pradesh, India are given below. Note that the Internet service provider is also Jio (JioFi 3 router has Jio SIM in it).

Typical speed of Internet connection on Dell Mini-Laptop using JioFi 3 router connected via WiFi or USB was above 3 Mbps touching 9 Mbps+ speeds at times, though there were a few outlier-type lower speed readings including some below 1 Mbps readings too.

JioFi placed on window sill of balcony seemed to give some high speed results of 6 to 9 Mbps but sometimes gave lower speeds. JioFi being placed on table inside the balcony was giving almost comparable high speed results in the range of 6 to 9 Mbps but the number of tests done is smaller than that done on window sill location.

JioFi placed in vertical position on computer table in bedroom next to laptop gave most results in the 3 Mbps to 6 Mbps range with some results giving as low as hundreds of Kbps speeds and some giving high 9 Mbps+ speeds.

[Updates on 18th Sept. 2017: Late night/early morning (1 AM to 2.30 AM) speeds were typically in the range of 15 to 20 Mbps, though a few outlier results were lower.

In the afternoon (1 PM to 2 PM) in a shop on Puttaparthi main road which, I was told, is quite close to the Jio tower in that area, I got 25 to 30 Mbps speeds with an outlier top speed of 37 Mbps! end-Updates.]

Overall, I can say that the Internet speed seen in my flat on Dell Mini Laptop when connected to JioFi 3 router with 4G Jio SIM, via WiFi or USB, is satisfactory for my needs.

Readers who want to see the detailed speed tests may see the remaining part of this post. Others may please feel free to skip reading rest of this post.

Detailed Speed Tests Log
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The (4G mobile Internet) signal strength indicator (middle icon) of the JioFi 3 router has four values (taken from leaflet documentation that came with JioFi 3 router):
1) Solid green: Good signal coverage

2) Solid blue: Fair signal coverage
3) Solid red: Poor signal coverage
4) Blinking red: No sim card/sim card error/No service

My observation has been that JioFi 3 router placed flat on the computer table in my bedroom usually gives solid blue indicator - Fair signal coverage, but sometimes gives solid green indicator - Good signal coverage. If I keep it standing almost vertically (within a cardboard box for stability as JioFi 3's vertical base is very thin), it sometimes gives a solid green indicator and sometimes a solid blue indicator.

I forgot to change the Windows Update setting of (Automatic) Check for Updates before I did most of these tests. So any traffic from (automatic) Check for Updates could have slowed down some of the speed tests given below. Towards the end of these tests I changed it to Never Update and the point at which I did it is mentioned in this log.

WiFi speed tests
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17th Sept. 2017, 4:55 PM, Location: Dell mini Laptop on computer table in bedroom, JioFi almost vertically placed on computer table next to Laptop, bedroom-balcony door open, Laptop connected to JioFi 3 by WiFi.

) 5.5 Mbps, 4.59 PM, Fair signal, fast.com
) 3.1 Mbps, 5.01 PM, Good signal, fast.com
) 9.52 Mbps, 5.03 PM, Good signal, http://beta.speedtest.net/result/6631424 865
) 6.06 Mbps, 5.04 PM, Good signal, http://beta.speedtest.net/result/6631427 385

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Location: Dell mini Laptop on computer table in bedroom, JioFi almost vertically placed on table in bedroom near open bedroom-balcony door, Laptop connected to JioFi 3 by WiFi.

) 5.9 Mbps, 5.08 PM, Fair signal, fast.com
) 7.0 Mbps, 5.09 PM, Fair signal, fast.com
) 5.63 Mbps, 5.11 PM, Fair signal, http://beta.speedtest.net/result/6631438 487
) 5.25 Mbps, 5.13 PM, Fair signal, http://beta.speedtest.net/result/6631441 896

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Location: Dell mini Laptop on computer table in bedroom, JioFi almost vertically placed on table in balcony near open bedroom-balcony door, Laptop connected to JioFi 3 by WiFi.

) 9.8 Mbps, 5.16 PM, Good signal, fast.com
) 8.2 Mbps, 5.17 PM, Good signal, fast.com
) 6.75 Mbps, 5.18 PM, Good signal, http://beta.speedtest.net/result/6631451 918
) 7.68 Mbps, 5.20 PM, Good signal, http://beta.speedtest.net/result/6631454 536

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Location: Dell mini Laptop on computer table in bedroom, JioFi almost vertically placed on window-sill in balcony resting on closed insect-net window-pane (with JioFi front side facing bedroom; in all above tests the JioFi front side was facing the outside balcony window area), bedroom-balcony door open, Laptop connected to JioFi 3 by WiFi.

) 7.8 Mbps, 5.24 PM, Good signal, fast.com
) 7.0 Mbps, 5.25 PM, Good signal, fast.com
[Ookla Beta speedtests were not working!]

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Changed JioFi front side to face outside window area (resting against insect-net window pane) [on balcony window sill]
) 6.8 Mbps, 5.33 PM, Fair signal, fast.com
) 4.6 Mbps, 5.35 PM, Good signal, fast.com
) 12.36 Mbps, 5.36 PM, Good signal, http://beta.speedtest.net/result/6631484 040
) 5.61 Mbps, 5.37 PM, Good signal, http://beta.speedtest.net/result/6631486 509

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Changed JioFi front side to face bedroom (again) [on balcony window sill]
) 9.38 Mbps, 5.40 PM, Good signal, http://beta.speedtest.net/result/6631490 953
) 5.11 Mbps, 5.43 PM, Good signal, http://beta.speedtest.net/result/6631494 882

USB connection speed tests
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Now I got the JioFi router back to computer table, disconnected the WiFi connection and connected JioFi router to Laptop using USB data (and charger) cable (micro-USB on JioFi side). Note that the laptop has USB 3.0 ports which were used for these tests (and NOT USB 2.0 which may cap the speed to below 500 Kbps).

Location: Dell mini Laptop on computer table in bedroom, JioFi almost vertically placed on computer table next to Laptop, bedroom-balcony door open, Laptop connected to JioFi 3 by USB (only)
) 3.3 Mbps, 5.49 PM, Good signal, fast.com
) 8.3 Mbps, 5.53 PM, Good signal, fast.com
) 10.46 Mbps, 5.54 PM, Good signal, http://beta.speedtest.net/result/6631517 017
) 9.17 Mbps, 5.55 PM, Good signal, http://beta.speedtest.net/result/6631520 204

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Changed Windows Update setting from (Automatic) Check for Updates to Never Update. So that will prevent any traffic from Windows Update slowing down the speed test.

Changed JioFi 3 position to horizontal on computer table. Rest is same as above.

) 4.7 Mbps, 7.48 PM, Fair signal, fast.com
) 3.0 Mbps, 7.50 PM, Fair signal, fast.com
) 1.69 Mbps, 7.51 PM, Fair signal, http://beta.speedtest.net/result/6631747 285
) 1.29 Mbps, 7.52 PM, Fair signal, http://beta.speedtest.net/result/6631749 548

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Location: Dell mini Laptop on chair in balcony, JioFi on balcony window sill (resting against insect-net window pane) with JioFi front side facing bedroom, Laptop connected to JioFi 3 by USB (only)

) 6.3 Mbps, 8.00 PM, Good signal, fast.com
) 410 Kbps (yes, Kbps), 8.01 PM, Good signal, fast.com
) 6.0 Mbps, 8.02 PM, Good signal, fast.com
) 2.22 Mbps, 8.04 PM, Good signal, http://beta.speedtest.net/result/6631773 341
) 4.32 Mbps, 8.05 PM, Good signal, http://beta.speedtest.net/result/6631776 702

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A little after the above tests, as I was trying out some more casual speed tests but not recording them here (as that takes time), I saw the speeds drop to a few hundreds of Kbps. I thought that my many speed tests may have pushed my data consumption for the day on this SIM/account to 2GB after which the speed dropped (official speed after 2 GB limit is 128 Kbps).

But when I checked the Jio portal for this account, it showed 800 odd (or was it 900 odd?) MB data available for me. I thought the Jio portal may not have got updated with the latest data consumption.

Around 10 PM I checked the Jio portal again. It still showed 800 odd MB data available for me. I checked the speed on this SIM (in router) and was disappointed to see below 1 Mbps speed. In the interim I had changed to using my first Jio SIM on Huawei USB modem/dongle and that gave a healthy 2 to 4 Mbps on laptop on computer table in bedroom.

I wonder whether the speed cap is getting applied in my 2 GB/day case after 1 GB itself!

Did some (additional) proper speed tests on the new SIM and router.
Location: Dell mini Laptop on computer table in bedroom, JioFi almost vertically placed on computer table next to laptop, closed bedroom-balcony door, Laptop connected to JioFi 3 by WiFi.

) 3.0 Mbps, 10.15 PM, Fair signal, fast.com
) 4.5 Mbps, 10.16 PM, Fair signal, fast.com
) 4.65 Mbps, 10.18 PM, Good signal, http://beta.speedtest.net/result/6632055 777
) 5.45 Mbps, 10.19 PM, Good signal, http://beta.speedtest.net/result/6632058 531

The above tests show that my earlier fears about possibility of speed cap having been applied even though I had not crossed my 2 GB/day limit, WERE UNFOUNDED. The above speeds seem to be healthy for the location of the JioFi device. Perhaps there is some other explanation for the hundreds of Kbps speed results I got earlier.

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Same arrangement as above tests, but with WiFi disconnected and USB cable connection made between JioFi router and Laptop.

) 2.2 Mbps, 10.26 PM, Good signal, fast.com
) 2.5 Mbps, 10.27 PM, Good signal, fast.com
) 3.53 Mbps, 10.28 PM, Good signal, http://beta.speedtest.net/result/6632077 323
) 3.07 Mbps, 10.29 PM, Good signal, http://beta.speedtest.net/result/6632079 825

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To know more precise values of signal quality than Poor, Fair or Good, the JioFi web admin interface under its Status tab/page has three fields RSRP (Received Signal Received Power), RSRQ (Received Signal Received Quality) and SINR (Signal to Interference-plus-Noise Ratio). [For more on these terms see: Making Sense of Signal Strength/Signal Quality Readings for Cellular Modems, http://blog.industrialnetworking.com/2014/04/making-sense-of-signal-strengths ignal.html.]

The web admin interface page of JioFi 3 can be accessed by the URL: http://jiofi.local.html/ in browser of computer connected to JioFi 3 (by WiFi or by USB).

The article, Understanding LTE Signal Strength Values, http://knowledge.digi.com/articles/Knowledge _Base _Article/Understanding-LTE-Signal-Strength-Values, has a table with the value ranges of the three fields taken together, which are considered as Excellent, Good, Mid Cell and Cell Edge (signal strength).

Excellent has RSPR >= -80, RSRQ >= -10, SNR >=20
Good has RSPR from -80 to -90, RSRQ from -10 to -15, SNR from 13 to 20

At 10:41 PM the web admin Status page shows RSRP of -80 dBm, RSRQ of -11 dB and SNR of 21 dB. At the same time, the solid green signal strength indicator is shown on the front panel of the JioFi 3 router, which means Good signal strength in JioFi 3 documentation terms (and not above digi.com article terms). The Good signal strength term in JioFi 3 documentation may be mapping onto both Excellent and Good signal strength terms in the digi.com article.

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Early morning of 18th Sept. 2017 speed tests

Location: Dell mini Laptop on computer table in bedroom, JioFi almost vertically placed on computer table next to Laptop, bedroom-balcony door closed, Laptop connected to JioFi 3 by USB (only)
) 15 Mbps, 1.01 AM, Good signal, fast.com
) 12 Mbps, 1.08 AM, Good signal, fast.com
) 14.65 Mbps, 1.09 AM, Good signal, http://beta.speedtest.net/result/6632409 303
) 18.79 Mbps, 1.11 AM, Good signal, http://beta.speedtest.net/result/6632412 601
———

Location: Dell mini Laptop on computer table in bedroom, JioFi placed on balcony window-sill next to closed insect-net window, JioFi front side facing bedroom, bedroom-balcony door CLOSED, Laptop connected to JioFi 3 by WiFi

) 5.8 Mbps, 1.16 AM, Fair signal, fast.com
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Changed JioFi front side to face outside window area
) 8.0 Mbps, 1.19 AM, Good signal, fast.com
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Opened bedroom-balcony door
) 12 Mbps, 1.21 AM, Good signal presumed, fast.com
) 8.7 Mbps, 1.22 AM, Good signal presumed, fast.com
) 11.76 Mbps, 1.23 AM, Good signal presumed, http://beta.speedtest.net/result/6632433920
) 12.47 Mbps, 1.25 AM, Good signal presumed, http://beta.speedtest.net/result/6632436140
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Sat in the balcony with Laptop connected to JioFi 3 over USB. Initial 3 or 4 tests, IIRC, were done with JioFi on window-sill resting against closed insect-net window-pane. Later 3 or 4 tests, IIRC, were done with insect-pane window opened and me holding the JioFi in the outside window area.

) 17 Mbps, slightly before 1.32 AM, Good signal, fast.com
) 19 Mbps, 1.32 AM, Good signal, fast.com
) 19.75 Mbps, 1.34 AM, Good signal, http://beta.speedtest.net/result/6632453 799
) 21.03 Mbps, 1.37 AM, Good signal, http://beta.speedtest.net/result/6632458 422

) 23 Mbps, 1.49 AM, Good signal, fast.com
) 22 Mbps, 1.50 AM, Good signal, fast.com
) 22.29 Mbps, 1.52 AM, Good signal, http://beta.speedtest.net/result/6632484 346
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Location: Dell mini Laptop on computer table in bedroom, JioFi almost vertically placed on computer table next to Laptop, bedroom-balcony door closed, Laptop connected to JioFi 3 by WiFi

) 20.20 Mbps, 2.11 AM, Good signal, http://beta.speedtest.net/result/6632515 045
) 17.80 Mbps, 2.13 AM, Good signal, http://beta.speedtest.net/result/6632518 110
) 15 Mbps, 2.14 AM, Good signal, fast.com
) 14 Mbps, 2.14 AM, Good signal, fast.com
) 18.77 Mbps, 2.15 AM, Good signal, http://beta.speedtest.net/result/6632521 721
) 16.92 Mbps, 2.16 AM, Good signal, http://beta.speedtest.net/result/6632523 363

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At 2.19 AM, Jio portal for 2nd SIM (JioFi SIM) shows data availability as 756.00 MB from 2.00 GB! Also got an email notification from Jio at 2.11 AM about 50 % usage on this number/SIM. So from around 12:00 AM (0:00 hours) to 2.19 AM, a little over 2 hours period, the above tests and some casual tests not recorded in above log, were the main consumers of 2 GB - 756 MB i.e. 2048 MB - 756 MB = 1292 MB of data!

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Additional speed tests in Puttaparthi Main Road shop

Location: Tirupathi Rao Mobile shop on Gopuram Road (Main road), Puttaparthi. Dell mini Laptop connected via WiFi to JioFi kept horizontally on table inside shop. 18th Sept. 2017

) 28.44 Mbps, 1.29 PM, Good signal I presume, http://beta.speedtest.net/result/6633452749
) 37 Mbps, slightly before 1.44 PM, Good signal I presume, fast.com
) 30.13 Mbps, 1.44 PM, Good signal I presume, http://beta.speedtest.net/result/6633484115

I was told that the surprisingly high speeds in the afternoon (on a weekday - Monday) in that location may be explained by Jio tower being close by. I was told that in that area the tower is about 100 feet from the main road (Gopuram road) on the side street leading to Shanti library.

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